



Higher Education Management and Policy

**JOURNAL OF THE PROGRAMME
ON INSTITUTIONAL MANAGEMENT
IN HIGHER EDUCATION**



JOURNAL OF THE PROGRAMME
ON INSTITUTIONAL MANAGEMENT IN HIGHER EDUCATION

Higher Education Management and Policy

Volume 20, No. 3



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where the governments of 30 democracies work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The Commission of the European Communities takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

Also available in French under the title:

Politiques et gestion de l'enseignement supérieur

Volume 20, n° 3

© OECD 2008

No reproduction, copy, transmission or translation of this publication may be made without written permission. Applications should be sent to OECD Publishing rights@oecd.org or by fax 33 1 45 24 99 30. Permission to photocopy a portion of this work should be addressed to the Centre français d'exploitation du droit de copie (CFC), 20, rue des Grands-Augustins, 75006 Paris, France, fax 33 1 46 34 67 19, contact@cfcopies.com or (for US only) to Copyright Clearance Center (CCC), 222 Rosewood Drive Danvers, MA 01923, USA, fax 1 978 646 8600, info@copyright.com.

Higher Education Management and Policy

- A journal addressed to leaders, managers, researchers and policy makers in the field of higher education institutional management and policy.
- Covering practice and policy in the field of system and institutional management through articles and reports on research projects of wide international scope.
- First published in 1977 under the title *International Journal of Institutional Management in Higher Education*, then *Higher Education Management* from 1989 to 2001, it appears three times a year in English and French editions.

Information for authors wishing to submit articles for publication appears at the end of this issue. Articles and related correspondence should be sent to the deputy editor:

Jill Gaston
Higher Education Management and Policy
OECD/IMHE
2, rue André-Pascal
75775 Paris Cedex 16
France

To subscribe send your order to:

OECD Publications Service
2, rue André-Pascal, 75775 Paris Cedex 16, France

2008 subscription (3 issues):
EUR 120 USD 154 GBP 82 JPN 16 800

Online bookshop: www.oecdbookshop.org

The **Programme on Institutional Management in Higher Education (IMHE)** is a membership forum serving policy makers in national and regional authorities, managers of higher education institutions, and researchers. IMHE provides strategic analysis and advice on institutional leadership, management, research and innovation in a global knowledge economy, and reform and governance in higher education.

The Programme on Institutional Management in Higher Education is part of the OECD. IMHE is the only OECD forum open to higher education institutions. Established in 1969, IMHE now has 220 members from 41 different countries. IMHE research areas and activities are determined by the IMHE Governing Board, made up of elected representatives of IMHE members in each country. The role of the Governing Board is to develop and monitor the IMHE programme of work, implemented by the Secretariat.

Editorial Advisory Group

Elaine EL-KHAWAS

George Washington University, United States (Chair)

Philip G. ALTBACH

Boston College, United States

Chris DUKE

RMIT University, Australia

John GODDARD

Newcastle University, United Kingdom

Leo GOEDEGEBUURE

University of New England, Australia

Ellen HAZELKORN

Dublin Institute of Technology, Ireland

Salvador MALO

Instituto Mexico de la Competitividad, Mexico

Vin MASSARO

University of Melbourne, Australia

V. Lynn MEEK

University of Melbourne, Australia

Robin MIDDLEHURST

University of Surrey, United Kingdom

José-Ginés MORA

University of London, United Kingdom

Jan SADLAK

UNESCO-CEPES, Romania

Jamil SALMI

The World Bank, United States

Michael SHATTOCK

University of London, United Kingdom

Sheila SLAUGHTER

University of Georgia, United States

Andrée SURSOCK

European University Association, Belgium

Ulrich TEICHLER

INCHER-Kassel, Germany

Luc WEBER

Université de Genève, Switzerland

Akiyoshi YONEZAWA

Tohoku University, Japan

Frank ZIEGELE

Centre for Higher Education Development, Germany

Table of Contents

Quality Assurance in the European Higher Education Area: The Emergence of a German Market for Quality Assurance Agencies	
<i>Kathia E. Serrano-Velarde</i>	9
Scholarly Communication Costs in Australian Higher Education	
<i>John W. Houghton with Colin Steele and Peter Sheehan</i>	27
Introducing Entrepreneurship Teaching at Select German Universities: The Challenge of Change	
<i>Gudrun Curri</i>	45
The Institutional Organisation of Knowledge Transfer and its Implications	
<i>Sjors van der Heide, Peter C. van der Sijde and Cees Terlouw</i>	65
Quality Assessment of Undergraduate Education in China: A Policy Analysis	
<i>Shuiyun Liu and Maria João Rosa</i>	79
The Negotiation Process toward the New Salary System in the Finnish University Sector	
<i>Jouni Kekäle</i>	97
(Re)Conceptualising the Academy: Institutional Development of and beyond the Third Mission	
<i>Tim Vorley and Jen Nelles</i>	119

Quality Assurance in the European Higher Education Area: The Emergence of a German Market for Quality Assurance Agencies

by

Kathia E. Serrano-Velarde

Centre de sociologie des organisations/Sciences-Po, France

Most European countries have introduced systematic quality assurance as part of an overall governance reform aimed at enhancing universities' autonomy. Researchers and economic entrepreneurs tend, however, to underestimate the political dimension of accreditation and evaluation when they consider the contribution of quality assurance to the economic competitiveness of universities and/or the economic system as a whole. I intend to shed light on this aspect of quality assurance by 1) analysing how the provision of quality assurance is constrained by the institutional setting in place, and 2) studying the implications of that constraint on the constitution of a national and international market of quality assurance agencies.

I begin the analysis by commenting on the political stake in the emergence of a German market of competing quality assurance agencies, then highlight the irreducible dimension of national politics in creating a European market of quality assurance agencies.

Introduction

Quality assurance can be considered as one of the most prominent reform issues in higher education worldwide. Since the beginning of the 1990s, countries and international non-governmental organisations have discovered the potential of quality control as a means of generating accountability in increasingly deregulated higher education systems: By making the output of higher education establishments visible to all parties concerned, quality assurance would not only provide more and better information on the productivity of higher education, it would also further its integration into larger social systems (Luhmann, 1987). In times of economic stagnation, the productive potential of the qualification-research nexus made higher education co-responsible for national prosperity.

In the long course of history, higher education and research underwent dramatic transformations due to their constant re-positioning and re-definition in changing socio-economic contexts (Durkheim, 1990). Although it might seem rather drastic to qualify the ongoing “market-oriented” phase of institutional development as a complete rupture with university tradition, the European reform debate reveals a great deal of innovative, systemic reflection on the link between an economic logic of action on the one hand, and the production of knowledge and knowledge workers on the other. In short, the so-called European model of a “knowledge economy” (Council of the European Union, 2000) is based upon the assumption that the partial integration of these previously independent societal systems would lead to powerful synergies, catapulting Europe on the top charts of world economic competitiveness. Such a strong theoretical, maybe even ideological, reform premise leads necessarily to the discussion of quality control in higher education. In this perspective, quality assurance must not only provide a certain degree of accountability of the way the ever-decreasing public funds are spent, but it must also play the role of mediator between functionally different systems by making them mutually transparent and thereby generating interaction.

Research has greatly emphasised the two aspects of quality assurance, i.e. accountability and mediation. However, I believe that the ongoing, mostly theoretical discussion of quality assurance as a subpoint of a visionary reform agenda has led to underestimating the political dimension of accreditation and evaluation practices.

A careful examination of the way quality assurance is provided in the European Higher Education Area (EHEA) would certainly enrich the debate on the link between sustainable economic competitiveness and university reform with critical insights into current practices. Drawing on the analysis of 70 semi-structured interviews with practitioners from German and international quality assurance agencies, I propose to address the research question by presenting two case studies: Firstly, I intend to delve into a national problematic by introducing findings on the nature of the political stake of Germany's emerging quality assurance market. Secondly, I will highlight recent European efforts to create a register of quality assurance agencies. This example emphasises the irreducible dimension of national politics in the creation of the EHEA and the promotion of a European market of quality assurance. Finally, I will conclude the paper by explaining the implications of the research results for the reliability of accreditation and evaluation results.

The state of research

Because of its long historical standing in Anglo-Saxon countries, there is a relatively important body of literature dealing with quality assurance matters in the United Kingdom (Kogan, 1989; Henkel and Little, 1999; Elton, 2000) and the United States (El-Khawas, 2001). Although these texts provide the theoretical groundwork to European research on quality assurance, their applicability to what is actually happening in the EHEA is limited. Quality assurance is a fresh concern to higher education politics and policies in Continental Europe. The contextual factors speeding up the introduction of quality control are different from the ones experienced in the Anglo-Saxon world (Bleiklie, 2004). European quality assurance is an emerging research topic on its own. However, empirically informed research is still scarce and scattered throughout European countries. Therefore, reviewing the European literature on quality assurance is a subtle exercise: Research and practice vary greatly among countries. There is a common understanding on the methodological premises of quality assurance among European researchers, practitioners and politicians, but there is little agreement on the scope and aim of this novel “instrument”. The study of quality assurance remains a specific and highly technical field of research, neglected by traditional disciplines (Power, 1997). Bearing this in mind, I will proceed to an overview of the current approaches to quality assurance as research object, before concluding this section by outlining the theoretical approach of this study.

First of all, and I hereby take up the line of reflection presented in the introduction, quality assurance is treated as part of an all-encompassing transformation process analysed by researchers concerned with problems of social change and the role of knowledge in post-modern societies. As stated above, quality assurance is considered as means of loosening the states' grip

on higher education and providing room for innovative links with economic spheres. Theoretical models like the following describe a state of transformation: “Mode 2” (Gibbons *et al.*, 1994) or the “triple helix” (Etzkowitz and Leydesdorff, 1997) which describe the creation of interactive platforms between industry, government and higher education; prominent analyses on research networks (Powell *et al.*, 1996; Castells, 1998); and, last but not least, the monumental canon of New Public Management literature. Within this setting, quality assurance thus insures a smooth transition from a regulated to a deregulated tertiary education sector, from an anarchical way of organising research and education (March and Olsen, 1972) to an efficient and effective enterprise, from a self-sufficient system of action (Parsons, 1978) to an interrelated system of production. The very function and working mechanisms of quality assurance are, however, dependent on the theoretical premise underlying the respective programme of transformation. Although these studies have doubtlessly inspired policy makers throughout Europe (Rodrigues, 2003), their meta-theoretical standing makes the realisation of an ideal-type of quality assurance a tricky exercise. Until now, little coherence has been reached in implementing these innovative ideas.

Secondly, the rise of evaluation, accreditation and audit practices has led to the creation of texts and handbooks intended to help the reader either to follow procedures of quality control or to pass a professional examination on the subject. This branch of literature emerged at the beginning of the 1990s, when politicians started to consider new forms of governance for their public sector. By providing detailed accounts on foreign experiences with evaluation techniques, early texts aimed to induce knowledge transfer. Authors tried to illustrate the meaning of quality in higher education and why it should be measured. Now that academics have become directly acquainted with their new duty, the literature shows a growing concern for more technical questions. In brief, the focus has shifted from the question of “why” to the one of “how”, in parallel with the growing acceptance of quality control in higher education.

The last branch of literature I am going to discuss is of recent origins. Up to this point, I have underlined the lack of empirical investigation concerning existing practices of quality control. Nevertheless, the growing importance of quality assurance at the European level (especially since the intergovernmental conference held 2003 in Berlin, where quality assurance was declared to be a major reform principle of the Bologna agenda) made politicians and practitioners aware of the lacking transparency and fragmentation of quality assurance in Europe. Consequently, they committed themselves to common benchmarking exercises under the discrete supervision of the European Commission. The result is a growing corpus of self-reports and systematic comparisons, which are essential to grasp the political momentum of the whole reform process, but should be handled with great care (Crozier *et al.*, 2005, 2006; Di Nauta *et al.*,

2004; Eurydice, 2005; Schwarz and Westerheijden, 2004). Since these studies are carried out by actors and stakeholders in the field, the reader needs to be aware of the potential bias imposed on the data selection and the line of argument. Although most of these studies are essentially descriptive, they do not provide sufficiently reliable data for a thorough investigation. As quality assurance is a relatively new phenomenon, the need to enhance mutual understanding through focused publication efforts is of crucial importance to the overall coherence of the European reform project. It is, however, urgent to overcome the level of simple and uncritical information flow in order to engage in an in-depth analysis of the working mechanism of quality assurance.

The following section tackles the research object from an economic and sociological point of view. The past few years witnessed the emergence of an important service sector providing professional audit services to higher education institutions. In a sense, the political will to reform the governance system of higher education has created a demand for quality assurance, soon needing to be satisfied by the establishment of professional organisations. According to Alfred Marshall, it is thus possible to qualify the emerging correlation of demand and supply of quality assurance services as a market: “When demand and supply are spoken of in relation to one another, it is of course necessary that the markets to which they refer should be the same” (Marshall, 1949, p. 270). Although trying to evaluate the amount of money spent on accreditation and evaluation over the years (most of the actual audit is still carried out on an honorary basis) would be in vain, the significant growth rate of this sector is revealed by the ever-increasing number of (public and private) agencies established to this end. However, the correlation of demand and supply varies greatly from context to context. In some countries, accreditation is delegated to autonomous and competing agencies (e.g. Germany, the Netherlands), whereas in others, governmental bodies carry out the evaluation and leave the final accreditation to the ministry in charge (e.g. France, Lithuania). This paper tries to retrace the origin and evolution of the European market of quality assurance services by highlighting the restrictions imposed on both demand and supply. I am convinced that a realistic understanding of the institutional structure underlying this expanding service sector would raise the overall awareness of the limits of this new steering instrument, and thereby enrich political, economic and societal discussions on the evolution of quality assurance in higher education.

The function of quality assurance in a competitive perspective

Universities can refer to evaluations for determining their co-operation partners. Students and enterprises consider the same results to figure out the best place to invest. In times of increasing fees and decreasing state funding, this kind of consumer behaviour is likely to become more common. Furthermore,

there is an added value to accreditation labels that has a dynamic effect on the competition between universities. Higher education institutions enter into competition for the “best labels” in order to enhance their attractiveness as qualification producers and secure a better position for themselves as potential partners to economic structures. Evaluation and accreditation render the output of a higher education institution transparent (and thereby comparable) to actors in different spheres and settings, specifically by publishing the results of the evaluation process and labelling the quality of university education, research and management. Evaluation and accreditation thus become a powerful instrument of consumer protection in an ever-internationalising higher education setting. Consumer protection is not to be considered as a third function of quality assurance besides accountability and mediation. Rather, it is entailed in both the accountability and mediation functions, as the former refers to consumer protection in a national sphere whereas the latter highlights the international dimension of consumer protection.

To sum up on the “function of quality assurance in a perspective of competition” and put it in more theoretical wording, one could say that quality assurance lowers transaction cost by lowering information cost (North, 1989, 1990). However, and this is where the insights of institutional economists like Douglass North are most relevant, one must bear in mind that institutional infrastructures such as state-supervised accreditation and evaluation have costs of their own. The question is to find out which are the costs and to what extent they affect the reliability of quality assurance results as a decision base for consumers and co-operation partners: When and where do politics impose a bias on the constitution and international expansion of a promising market? What implications does the political bias have on consumer protection with regard to the reliability of information provided by quality assurance?

In his writings, North focuses on the aspect of “social costs” related to any kind of economic transaction. To this end, he operationalises the prominent sociological concept of institutional constraint. By revising the neo-classical premise that transactions happen in a political, social and cultural vacuum, North bridges the gap between economics and sociology (Hirsch and Lounsbury, 1996). The market is no more a free and simple meeting of demand and supply, but a contextualised zone of interaction where both supply and demand have to cope with context-specific requirements. Since any kind of interaction is embedded into an institutional framework, the actors’ options are structured in advance: *Homo economicus*’ utilitarian scope of action is altered, if not restricted, by legislation (formal constraints) or more informal structures (such as professional norms, ethical codes, etc.).

With regard to the initial research question, I will concentrate my argumentation on the political moment of the institutional framework. Although I am aware of the theoretical and normative dimensions related to the terms

“politics” and “political”, I do not intend to delve into a detailed discussion of their different layers of meaning. I rather propose a schematic working definition, which shall become clearer with the illustration provided by the case studies. By political constraints on the free provision of quality assurance, I mean:

1. *lato sensu*: the direct and measurable effect of a multilevel arrangement of interrelated agents on the design and implementation of a political agenda (this may be at the national or European level);
2. *stricto sensu*:
 - the enforcement of governmental interests in the national public sector management directly affecting the organisation of national quality assurance in higher education;
 - the enforcement of national interests at the European level directly affecting the way quality assurance is organised in the European Higher Education Area.

Having outlined the theoretical frame of this study, I shall now focus my remarks on the *stricto sensu* definition of “political constraints”. I am therefore going to start by briefly recapitulating previous observations and facts. Universities’ new responsibility to the society has come along with an altered vision of state regulation in higher education: “Universities and industry, up to now relatively separate and distinct institutional spheres, are each assuming tasks that were formerly largely the province of the other. [...] Governments are offering incentives and encouraging academic institutions to go beyond performing the traditional functions of cultural memory, education and research and to make a more direct contribution to wealth creation” (Etzkowitz and Leydesdorff, 1997, p. 2). As part of the overall reform process aimed at enhancing universities’ autonomy and scope of action, most European countries have introduced measures of quality control. Complying with the logic of New Public Management, governments opted for the deregulation of higher education steering and left the strategic guidance in the hands of individual establishments (Neave, 1998). Henceforth, accreditation and evaluation had to provide accountability (and transparency) to a system that remained widely ill understood. Whereas the original reform motivation was based on a shared vision of the future of higher education, the distribution of roles and functions remained deeply biased. As a consequence of this original (mostly legal) confusion, results of accreditation and evaluation procedures are directly or indirectly fed back into political decision making, thereby blurring the stake for all the parties concerned. There is a risk that evaluation and accreditation might then be exploited in order to inform the government of cost-cutting possibilities in the public sector. Instead of developing universities’ autonomy, quality assurance would lead to another, more subtle form of detailed state

regulation. One has to bear these issues in mind when considering the political stake of quality assurance and the way it imposes itself on the provision of evaluation and accreditation services. After all, how can academics trust an instrument which could be potentially used against their institution? What kind of bias does this distrust impose on the information provided to the evaluators? Hence the question if the consumer should trust a label based on possibly biased information.

There is indeed no clear-cut evolution from mode 1 to mode 2 (Nowotny *et al.*, 2001), from an industrial to a post-modern research and education setting, from a regulative to an evaluative state. The grey zones of transition need to be taken into account by researchers, politicians and “consumers”, if historical and political continuities in the use and abuse of these new governance instruments are to be revealed.

The political dimension of quality assurance

Enforcement of national interests with regard to managing the public sector

Germany is one of the few European countries allowing quality assurance agencies to compete within the national territory. Although this liberal model has often qualified as the “avant-garde” to Europe-wide developments, German agencies remain constrained by market conditions imposed by the federal states.

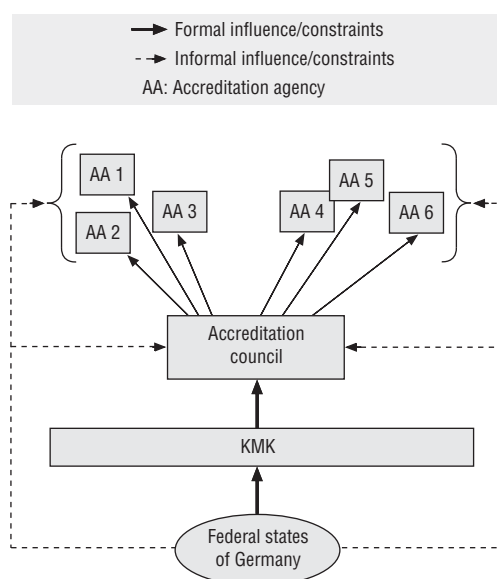
Before going into the details of the analysis, let me briefly comment on the general outlook of the German system of quality assurance. First of all, there is a clear-cut distinction between evaluation and accreditation, although both are considered to be part of a single, coherent system of quality assurance. Whereas accreditation consists of certifying a minimum quality standard, evaluation is – to put it simply – aimed at quality enhancement (at least in theory). Consequently, accreditation results are made public whereas evaluation results are kept only for internal use. This institutionalised separation of certification on the one hand and quality enhancement on the other is artificial and confusing: German evaluation and accreditation procedures use the same methods, are based on similar work-sequences and call on the same experts for their peer-review. It is needless to say that academics start to see this double burden of quality control as a waste of time and limited resources, thereby calling this very distinction into question. The real difference between evaluation and accreditation is their differing legal status. Accreditation has a clear legal position, granting the agencies which offer this kind of service a certain degree of autonomy. Contrary to evaluation agencies, which are organised in a rather loose and regional manner, accreditation agencies can and do take up work contracts throughout the national territory. The accreditation market is open

to professional, non-profit organisations that operate under the supervision of a central body, the accreditation council. Since accreditation is compulsive for creating any new study course, it is of crucial importance for the coherent transition to a two-cycle degree structure, as stipulated in the Bologna Process.

Nevertheless, the history of accreditation is to be read as a constant fight for organisational independence against regulative attempts on behalf of the federal states. Thanks to the legal setting in place, accreditation agencies were – up to now – rather successful in buffering their core technology from regional attempts to intervene in the regulation of quality assurance.

As education is the prerogative of regional governments, most of Germany's regulations concerning accreditation are generated in the standing conference of the ministers of education and cultural affairs of the federal states, the *Kultusministerkonferenz* (KMK). The accreditation council takes up the KMK resolutions and processes them into a legally binding framework for the agencies. The council checks the implementation of those regulations on a regular basis. As the KMK is not only the leading policy organ of educational planning throughout the German territory but also the main financier of the accreditation council and the supplier of more than half of its board members, the influence of the federal states on the council is considerable: The council finds itself in the uncomfortable, intermediate position between a powerful political system and relatively independent organisations in want of more freedom.

Figure 1. **The accreditation system in Germany**



The mediation is not without conflicts as the policy process engaged by the KMK is incremental, leading to frequent piece-meal adaptations of the overall accreditation framework. After all, the KMK must co-ordinate the education policies of 16 extremely heterogeneous regional education systems. An interviewee working in one of the six German accreditation agencies commented on the situation with the following words: “Whenever the ministers meet in Bonn, we watch out for changes on the accreditation agenda. [...] Tomorrow they meet in order to discuss the orthography reform. Well, you never know if they might not seize the opportunity and discuss accreditation related issues, thus generating another policy-paper demanding implementation”. For the moment, the precarious equilibrium between the satisfaction of political requirements and organisational independence is working. However, the ongoing reform debate on the future of federalism is beginning to take shape. It seems as if the balance of power between central and regional governments could be revised in favour of a complete delegation of policy-making competences in tertiary education to the federal states. The common policy platform of the KMK could then be overridden (as it is already) by the federal states’ attempt to regulate quality assurance. The federal states could be legally entitled to intervene directly in the accreditation business of the agencies.

Evaluation practices are even more biased. Evaluations are carried out in a complete legal vacuum. There are, broadly speaking, three models for the provision of evaluation services:

1. Higher education establishments can decide to keep evaluation within the limits of their institution (i.e. no external assessment is involved). Evaluation becomes then a matter of the university’s administration.
2. Higher education establishments can opt for a loose association with neighbouring institutions in order to carry out evaluation among the group members.
3. The regional government can decide to create an evaluation agency and therefore invest money into a new structure. Alternatively, the government can oblige higher education establishments to carry out a self-evaluation and forward the results to a special commission or ministerial department. The information will feed the “discussion process” between the federal state and its higher education institutions in “restructuring”¹ the regional tertiary education sector.

All three models have their shortcomings: As to the first two models, one might be tempted to doubt if evaluating the quality of higher education among members of the same group does not lead to a conflict of interests. Indeed, which academics would reveal embarrassing information on the state of their department to competitors, if this frankness could negatively affect

the competitive advantage of the department or the entire higher education institution in its quest for scarce resources? The last (and most current) case is, however, even more problematic. It raises the question of political exploitation of evaluation results. Evaluation results should reflect a thorough investigation of the strengths and weaknesses of an institution. How can one be sure that this sensitive information is not going to feed political decision making, when the organisation dealing with that data belongs to the federal ministry? Issues of quality assurance are raised at a time when public money becomes scarce. It is no longer enough to assume that higher education institutions will do the job as long as they are provided with sufficient funding. Funding has to be justified. When this is not the case, subsidies can be suspended, freeing the way for major projects of “restructuring”. In this case, evaluation hardly leads to enhancing quality in higher education. A civil servant working in a regional ministry of education commented on the ongoing “restructuring” efforts with the following words: “The goals [of evaluation] are stipulated by the ever decreasing state budget. It is not really quality enhancement, what we are doing. Nor is there any definition of quality underlying this procedure. It is our duty to make sure that higher education institutions are operational, even when the state budget is declining”. As the legal status and consequences of evaluation remain widely unclear, university representatives generally tend to be suspicious of this kind of *Profilierungsprozess*² evaluation is subordinated. As to the economic entrepreneurs, the political and legal blur of issues related to quality assurance leads them to cautiousness. They are slow to engage into a constructive dialogue with the agencies and the political sphere.

Again, one must keep in mind that the German system of quality assurance is among the most liberal in Europe. In Lithuania and Poland, for example, accreditation decisions are taken by the ministries of education. To this end, the ministry consults a specialised body (a so-called accreditation commission or council), which engages in a targeted evaluation of the programme in question. This situation is not specific to Eastern European countries. In France, the national evaluation committee carries out the evaluation of higher education projects leading to legally binding contracts for financing higher education institutions. At the end, the political implications of quality assurance vary from context to context, according to the place that the evaluation and/or accreditation occupy within the states’ new steering philosophy, the legal status of quality assurance mechanisms (and bodies), and the degree to which governments actually abide by their promises.

For the moment, efforts to create a common European setting for evaluation and accreditation practices are focusing on the mutual understanding and toleration of national specificities of quality control. This more or less coherent information policy is aimed at generating trust among European states in the general quality output of European higher education systems. Is trust in the

mere existence of quality control mechanisms, however, enough to base consumer decisions on? What kind of protection can European consumers hope for, given the eclectic and opaque landscape of quality assurance mechanisms?

Enforcement of national interests at the European level

The political constraint on the free provision of quality assurance becomes even more apparent when the organisation of a European system of quality assurance is concerned. Since the beginning of the EHEA project, issues of recognition and comparability of learning outcomes nourished reflections on organising a reliable and all-encompassing system of quality control: “Cooperation in QA [quality assurance] accreditation is an important prerequisite for mutual recognition of educational and training qualifications, which can only be achieved in the long term if the necessary trust can be created between competent agencies [of quality assurance in the respective nation states]” (European Parliament, 2005a). Recent European efforts in this direction entail the creation of a European register of quality assurance agencies.

I shall start the assessment of the last European policy output with a short narrative on the origins and evolution of the register concept: Evaluation and accreditation have become a lucrative and expanding business over the past few years. Nevertheless, the emergence of illegal practices has led to an early debate on introducing so-called meta-accreditation strategies to prevent fraud. The issue had first been raised by the International Association of University Presidents (IAUP). At the end of the 1990s, the IAUP commissioned the Belgian education specialist Dirk van Damme to draft a report (Van Damme, 1999) on the internationalisation of higher education and accreditation. At that time, Van Damme’s analysis underlined the existence of major problems related to consumer protection in a globalised higher education setting. The author proposed to counterbalance the growing uncertainty regarding the provision of quality education by complementing national quality assurance with an international control body. Dirk van Damme’s proposal of creating a “worldwide quality register for quality assurance and accreditation agencies” (Van Damme, 2001) was taken up consequently by OECD and UNESCO in their co-operative effort to issue common guidelines on “quality provision in cross-border higher education”³ and by the Directorate General Education and Training of the European Commission. Ever since, the idea of creating an instrument of meta-accreditation has become an implicit continuum in the commission’s engagement to promote quality assurance in European higher education, leading to the publication of some controversial policy papers. In May 2003, when the ministers mandated the European association for evaluation and accreditation agencies (the European Association for Quality Assurance, ENQA) to prepare a policy paper on common standards and guidelines of quality

assurance, the idea for a register came up again. It is not clear to what extent ENQA came up with this idea on its own or whether its main financier, the European Commission, urged ENQA to adopt the register idea. Nevertheless, the sheer synchronism (and similarity) of the Commission's and ENQA's working papers on this topic reveals some sort of correlation. After two years of heated debates and struggles among stakeholders in the Bologna follow-up group in charge of supervising the mandate, no substantial consensus had been reached on the register issue. At the Bergen conference, ENQA finally presented a somewhat watered-down version of the original register idea (ENQA, 2005): This register should list all certified agencies operating in Europe; higher education institutions would be entitled to choose any service provider on this list; and the register would be administered by a standing committee of experts in quality assurance. As expected, country representatives strictly refused to allow supranational institutions to intervene in their internal affairs. The larger countries, especially, remained highly suspicious of this integrative instrument and eventually imposed their view on the final declaration: Agencies will be granted access to the register providing that they pass the evaluation of their respective country. Furthermore, national governments shall remain the only authority that can open up (and regulate) the national market for quality assurance services.

Governments' stake in quality assurance prevents them from delegating control to any other stakeholder, if there is no wide support for such a claim. This observation can be considered as the ultimate lesson to be drawn from the 2005 Bergen conference. The turn taken in the reform debate on quality assurance had immediate implications for the European Union's own policy-making process. Whereas the Commissions' white paper issued in 2004 on "further European co-operation in quality assurance in higher education" was based on the principle that, once registered, each agency could substitute each other (the very principle mentioned in ENQA's original proposal), the amendments added by the European Parliament after May 2005 made it perfectly clear that quality assurance was falling under the subsidiarity clause.⁴ Countries put a (provisional) hold on the European endeavour to re-allocate responsibilities for quality assurance, as indicated in the replacement of section I letter E ("[member states] accept the assessments made by all quality assurance and accreditation agencies listed in the European register as a basis for decisions on licensing or funding of higher education institutions" [European Commission, 2004]) with "[member states] encourage higher education institutions to work towards a complementary trans-national assessment or accreditation by an agency in the European register, with a view of boosting their international reputation" (European Parliament, 2005b).

In fact, as early as 1999, Dirk van Damme had expressed serious doubts about the feasibility of his idea to create an international register for quality

assurance agencies: “National governments will not be prepared to have their authority in the field of quality assurance and the monitoring of performance of their domestic higher education institutions eroded by the transfer of power to supranational institutions” (Van Damme, 2001, p. 33). His reservations have proved to be justified. Even in zones of privileged political and economic co-operation, quality assurance in higher education is considered first and foremost a prerogative of the national government. The functional asymmetry between steering function/accountability, on the one hand, and mediating mechanism, on the other, is going to last. As a steering instrument, quality assurance is part of an innovative governance setting, though a governance setting in transition. The grey zones of this transition render quality assurance, its legal standing and the end use of the information it generates particularly vulnerable to political “expectations”. Although the European ministers have agreed on certain methodological standards and seem willing to enhance communication between the national systems of quality assurance, it is questionable if these measures will be enough to provide a basis for mutual trust and coherent, Europe-wide consumer protection. As highlighted earlier, an informal consensus on evaluation and accreditation methods, as well as international communication and communication platforms already exist. Still, the European cacophony of quality assurance in higher education persists.

Political implications for creating an integrated European market of quality assurance

Quality assurance as national prerogative

Although quality assurance has become a stake to the integration of European higher education systems, its function and scope of action are ultimately defined according to national requirements and expectations. ENQA's reform proposal granting higher education institutions the freedom to select among certified, European service providers bangs into a notorious veto point to any Europeanising endeavour: the subsidiarity principle. Whereas previous Bologna conferences were driven by a common motivation to make quality in higher education more transparent, the Bergen summit represents a turn in quality assurance matters. From now on, accreditation and evaluation will be firmly kept in the hands of the country. Since the establishment and the administration of a register of quality assurance agencies (and therefore also the organisation of a free service provision throughout Europe) depends on the countries' regulatory intervention and good-will, the actual register will act as a gatekeeper to any liberalising attempt. This raises the question of the extent to which future European reform efforts will remain committed to a national interpretation of quality assurance. The wording of the 2007 London Communiqué on setting up a register seems to confirm this suspicion.

National accreditation markets as “closed shops”

An interviewee working in a German accreditation agency described the European market situation for quality assurance services as follows: “Most of the foreign accreditation markets are closed shops”. Indeed, the foreign activities of German agencies concentrate on small countries without a quality assurance system at all (like Croatia or Luxembourg). Some agencies have even succeeded in entering the accreditation market of German-speaking neighbouring countries, although their success is limited. Even in the Netherlands, where the central accreditation council has licensed two of the existing two German accreditation agencies to operate on the national territory, actual work contracts remain scarce. The bottom line is this: An accreditation from a German agency can represent an added value to a foreign institution, but it is obviously not a priority for investing scarce resources, nor could it ever become one, given the wording of national legislations on this topic. In the absence of alternative formal or informal conventions, the country remains the only source of enforcement for quality assurance. Therefore, governments are capable of imposing the “rules of the game” to both local and international agencies (North, 1986).

Is the reliability of quality assurance a matter of blind trust?

The implications of political constraints to quality assurance remain highly biased and incommensurable for consumers from outside the (national) system. European consumer protection is subject to a national definition of quality output and control. Thus the European consumer has to trust the auditing system of other European countries. The consumer’s trust has to be blind, just like the student or the economic entrepreneur ignores the subtleties and implications of context-specific quality control. There is no possibility of relying on a supranational control body ensuring that national grey zones of transition do not entail ethically reprehensible practices. The consumer must feel safe to believe that, after all, quality assurance has the same, or at least comparable, impacts everywhere in Europe. However, there seems to be no empirical evidence documenting the rightfulness of such thinking. Rather, the case study of the political constraints imposed on German quality assurance seems to suggest the contrary. The underlying working mechanisms of quality control in European higher education are based on blind trust, at the expense of the consumer. Given the way European quality assurance is organised, is it still possible to talk about the reduction of information costs via quality assurance? The very integration of European higher education systems is thereby called into question.

The author:

Dr. Kathia E. Serrano-Velarde
 Centre de sociologie des organisations/Sciences-Po
 19, rue Amélie
 75007 Paris
 France
 E-Mail: kathia.serranovelarde@gmail.com

Notes

1. By “restructuring” I mean the merger of previously separate institutes or the complete dissolution of departments as a way of avoiding duplication.
2. The word *Profilierungsprozess* belongs to the policy jargon in Germany and refers to the creation of a distinctive image, to the process of achieving name or recognition. In practice, however, it covers restructuring efforts entailing cost-cutting practices on the basis of evaluation results.
3. In 2001 and for the first time in history, OECD and UNESCO started a continuous collaboration to promote and implement a common agenda on transnational quality assurance. Focusing on issues of international consumer protection, the *Guidelines on Quality Provision in Cross-border Higher Education* echoed the growing concerns of developing countries on the quality of higher education imports. However, due to the opposition of exporting countries, the register project had to be abandoned. The remaining guidelines were ratified at UNESCO’s general assembly in October 2005.
4. The subsidiarity clause is the limp of any kind of policy making the European Union attempts in the educational sector. The Maastricht Treaty (1992) stipulated for the first time in history, that EU-action could only be of complementary nature to the policy-making process engaged by the country, thus respecting the national stake to primary, secondary and tertiary education.

References

- Bleiklie, I. (2004), “Political Dimensions of Evaluation and Managerialism”, *Managerialism and Evaluation on Higher Education*, UNESCO, Paris, pp. 39-68.
- Castells, M. (1998), *La société en réseau : l’ère de l’information*, Fayard, Paris.
- Council of the European Union (2000), *Conclusions of the Lisbon European Council*, 23-24 March.
- Crozier, F., B. Curvale and F. Hénard (2005), *Quality Convergence Study: A Contribution to the Debates on Quality Convergence in the European Higher Education Area*, ENQA Occasional Papers 7, European Association for Quality Assurance in Higher Education (ENQA), Helsinki.
- Crozier, F. et al. (2006), *Terminology of Quality Assurance: Towards Shared European Values?* ENQA Occasional Papers 12, ENQA, Helsinki.
- Di Nauta, P. et al. (2004), *Accreditation Models in Higher Education: Experiences and Perspectives*, ENQA Workshop Papers 3, ENQA, Helsinki.

- Durkheim, E. (1990), *L'évolution pédagogique en France*, PUF, Paris.
- El-Khawas, E. (2001), *Accreditation in the USA: Origins, Developments and Future Prospects*, IIEP/UNESCO, Paris.
- Elton, L. (2000), "The UK Research Assessment Exercise: Unintended Consequences", *Higher Education Quarterly*, Vol. 54, No. 3, pp. 274-283.
- ENQA (European Association for Quality Assurance in Higher Education) (2005), *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, ENQA, Helsinki.
- Etzkowitz, H. and L. Leydesdorff (eds.) (1997), *Universities and the Global Knowledge Economy: A Triple Helix of University/Industry/Government Relations*, Pinter, London.
- European Commission (2004), *Proposal for a Recommendation of the Council and of the European Parliament on Further European Cooperation in Quality Assurance in Higher Education*, Ref.: COM(2004)642 final, European Commission, Brussels.
- European Parliament (2005a), *Draft Report on the Proposal for a Recommendation of the European Parliament and of the Council on Further European Cooperation in Quality Assurance in Higher Education*, Ref.: 2004/0239(COD), European Parliament.
- European Parliament (2005b), *European Parliament Legislation Resolution on the Proposal for a Recommendation of the Council and of the European Parliament on Further European Cooperation in Quality Assurance in Higher Education*, Ref.: P6_TA(2005)0380, European Parliament.
- Eurydice (2005), *Focus on the Structure of Higher Education in Europe: National Trends in the Bologna Process*, Eurydice, Brussels.
- Gibbons, M. et al. (1994), *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*, Sage Publication, London.
- Henkel, M. and B. Little (eds.) (1999), *Changing Relationships between Higher Education and the State*, Kingsley, London.
- Hirsch, P. M., M.D. Lounsbury (1996), "Rediscovering Volition: The Institutional Economics of Douglass C. North", *The Academy of Management Review*, Vol. 21, No. 3, pp. 872-884.
- Kogan, M. (1989), *Evaluating Higher Education*, Kingsley, London.
- London Communiqué (2007), *Towards the European Higher Education Area. Responding to Challenges of a Globalized World*, Communiqué of the Meeting of European Ministers in Charge of Higher Education in London, 18 May.
- Luhmann, N. (1987), *Soziale Systeme – Grundriss einer allgemeinen Theorie* (Social Systems – Outline of a General Theory), Suhrkamp, Frankfurt am Main.
- March, J. and J. Olsen (1972), "A Garbage Can Model of Organizational Choice", *Administrative Science Quarterly*, Vol. 17, No. 1, pp. 1-25.
- Marshall, A. (1949), *Principles of Economics: An Introductory Volume*, Macmillan and Co., London.
- Neave, G. (1998), "The Evaluative State Reconsidered", *European Journal of Education*, Vol. 33, No. 3, pp. 265-284.
- North, D. (1986), "The New Institutional Economics", *Journal of Institutional and Theoretical Economics*, No. 142, pp. 230-237.

- North, D. (1989), Institutional Change and Economic History, *Journal of Institutional and Theoretical Economics*, No. 145, pp. 238-245.
- North, D. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge.
- Nowotny, H., P. Scott and M. Gibbons (2001), *Wissenschaft neu denken: Wissen und Öffentlichkeit in einem Zeitalter der Ungewissheit* (Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty), Velbrück Wissenschaft, Weilerswist.
- OECD (2005), *Guidelines for Quality Provision in Cross-border Higher Education*, OECD, Paris.
- Parsons, T. (1978), *Action Theory and the Human Condition*, The Free Press, New York. pp. 91-167.
- Powell, W., K. Koput and L. Smith-Doerr (1996), "Inter organisational Collaboration and the Locus of Innovation: Networks of Learning in Biotechnology", *Administrative Science Quarterly*, Vol. 41, No. 1, pp. 116-145.
- Power, M. (1997), *The Audit Society: Rituals of Verification*, Oxford University Press, Oxford.
- Rodrigues, M. (2003), *European Policies for a Knowledge Economy*, Elgar, Cheltenham.
- Schwarz, S. and D. Westerheijden (eds.) (2004), *Accreditation and Evaluation in the European Higher Education Area*, Kluwer Academic Publisher, Dordrecht.
- Van Damme, D. (1999), *Internationalisation in Quality Assurance: Towards Worldwide Accreditation?*, report commissioned for the IAUP XIIth Triennial Conference in Brussels, International Association of University Presidents (IAUP), 11-14 July.
- Van Damme, D. (2001), *Towards a Worldwide Quality Register for Quality Assurance Agencies*, report commissioned for the IAUP meeting in Gent, IAUP, 13-15 December.

Scholarly Communication Costs in Australian Higher Education

by

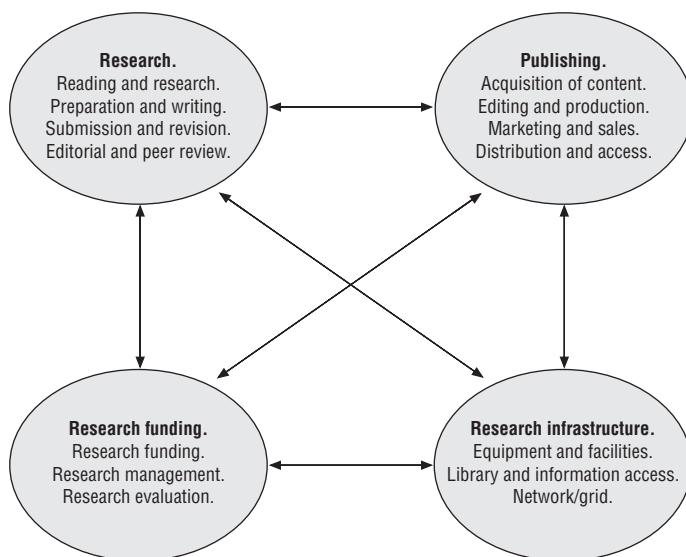
John W. Houghton with Colin Steele and Peter Sheehan
Victoria University and The Australian National University, Australia

This paper reports on the development and application of a model used to estimate the costs of scholarly communication (i.e. scholarly publishing and related activities) in Australian higher education. A systems perspective was used to frame a review of the literature on the costs involved in the entire scholarly communication value chain and inform the development of a scholarly communication system cost model. This paper presents estimated scholarly communication costs for higher education institutions in Australia, based upon the modelling, local data collections and stakeholder consultation, that may prove useful in the management of institutional budgets and priorities. It represents the first systematic attempt to estimate the costs of scholarly publishing related activities in Australia, and it could be easily applied elsewhere.

The scholarly communication system

A review of the literature relating to the costs of scholarly publishing and access reveals two distinct approaches. The majority of writers focus on the publishing process and discuss the functions and costs involved therein, while others explore the broader context, seeing publishing as a part of a wider system of knowledge-creation and dissemination. However detailed, studies that focus on publishing activities alone are unlikely to reflect the full system-wide costs. Therefore, cost models should include activities related to publishing and those related to system functions (Figure 1).

Figure 1. **Scholarly publishing activities and costs**



In this study, scholarly communication costs include:

- *research costs* – the costs associated with the research that enables the production of the article, monograph or other composition, its writing and preparation, submission and revision, and editorial and peer review activities;
- *publishing costs* – the costs associated with acquisition of content, editing and production, marketing and sales, and distribution and access;

- *research distribution costs* – the costs associated with access to findings, including library infrastructure and activities, the provision of equipment and network infrastructure for access;
- *research funding and management costs* – the costs associated with research funding, research management and the evaluation of research activities.

Scholarly communication costs in Australia

An extensive literature review (reported in Houghton *et al.*, 2006) informed the development of a model of the costs associated with various scholarly communication activities in Australia, with the activity costs and times cited in the literature used as the basis for the calculation of their equivalents for Australia. These were supplemented and refined through local data collection and a series of interviews with stakeholders. Inevitably, a number of simplifying assumptions must be made in the construction of such a model, and these preliminary costing should be taken as no more than a first approximation, intended to scope local activities rather than provide detailed costings. Nevertheless, they represent the first systematic attempt to estimate scholarly communication system costs in Australian higher education.

Research costs

Estimates of the costs associated with research activities are based on those found in the literature (Tenopir and King, 2000; King and Tenopir, 1998, 2004; King, 2004; Morris, 2005; Rowlands and Nicholas, 2005, 2006; Rowland, 2002; Halliday and Oppenheim, 2000; EPS, 2006). Activity times are translated into costs using the Australian Vice-Chancellors' Committee (AVCC) guide to full-cost-recovery for non-laboratory-based contract research activities, which includes full staff salary and on-costs as well as overhead costs. Results are presented as a total for the activities in Australian higher education and on a per item basis, and they refer to 2004 or the most recent year reported in the particular data collection concerned. Key assumptions are explained in the accompanying boxes.

Writing (AUD 480 million per annum)

Nationally, in Australian higher education institutions it is estimated that it costs around AUD 480 million per year to write those publications counted in the Higher Education Research Data Collection (HERDC) alone (i.e. scholarly peer reviewed works) – of which AUD 355 million relates to refereed journal articles and conference papers, AUD 85 million to research monographs and AUD 40 million to book chapters (Table 1). No account is taken of the cost of producing other outputs, publications that do not qualify for inclusion in the Higher Education Research Data Collection or those rejected for publication.

It is further estimated that the preparation of National Health and Medical Research Council (NHMRC) and Australian Research Council (ARC) grant applications by higher education institutions in Australia costs around AUD 114 million a year in researcher time alone. No account is taken of other grant applications and tendering activities.

Table 1. Activity costing estimates for Australian higher education, circa 2003-04

AUD per annum

Annual activity costs	Lower bound	Upper bound	Mean
Reading (published staff)	2 036 200 000	3 423 700 000	2 698 700 000
Reading (academic staff)	3 507 900 000	5 898 300 000	4 649 300 000
Writing (HERDC compliant publications only)	325 400 000	604 100 000	480 100 000
Peer review (scaled to HERDC)	39 900 000	177 800 000	100 200 000
Editorial activities (scaled to published staff)	13 300 000	59 400 000	33 100 000
Editorial board activities (scaled to published staff)	1 700 000	5 800 000	3 500 000
Preparing grant applications (ARC and NHMRC)	77 500 000	143 900 000	114 400 000
Reviewing grant applications (ARC and NHMRC)	9 800 000	35 100 000	21 700 000
Publisher costs (scaled to HERDC)	104 100 000	190 500 000	147 700 000

Note: All costings relate to Australian higher education. Total system costs include core scholarly communication activities only.

Source: Author's calculations based on the Centre for Strategic Economic Studies (CSES) project model.

Peer review (AUD 120 million per annum)

Assuming that peer review activities scale to HERDC compliant publication (i.e. peer reviewed publication), it is estimated that peer review activities in higher education cost around AUD 100 million a year – of which perhaps AUD 90 million relates to the peer review of journal articles and conference papers, AUD 6.5 million to book chapters and AUD 4.5 million to research monographs. No account is taken of reviewing other outputs.

It is further estimated that peer review of higher education related National Health and Medical and Australian Research Council grant applications costs a further AUD 22 million, bringing the total costs of peer review activities in Australian higher education to some AUD 120 million a year. No account is taken of other peer reviewing activities relating to other grants.

Box 1. Key assumptions in research costings

Researcher costs are based on the Australian Vice-Chancellors' Committee guide to full cost recovery for contract research and approximate full costing (AVCC, 1996). The salary range used is AUD 50 000 to AUD 110 000 plus on-costs (52%) and overheads (92% of salary and on-costs), following the AVCC guide. Overhead costs are averaged and distributed across the range. An hourly rate is calculated on the basis of "official" work time, at 230 working days per year and 7.5 hours per day.

Staff producing publications is the number of staff "generating publications" reported in the most recent *Research and Research Training Management Reports* (typically 2002 or 2003). Total academic staff includes those counted as teaching only, research only, and research and teaching staff in 2004. Estimates of the number of academics involved in peer review, editorial board and editorial activities are based on an international survey of more than 5 500 active authors (Rowlands and Nicholas, 2005, 2006), which is confirmed by a more focused German study (Deutsche Forschungsgemeinschaft, 2006).

Time to produce an article is derived from the literature review (based primarily upon the US surveys of Tenopir and King, 2000). Time to produce a monograph is assumed to be 12 times that to produce an article, based on average chapter counts and lengths, and has been confirmed in industry consultations.

Time to review an article is derived from the literature review (based primarily upon the US surveys of Tenopir and King, 2000). Time to review a monograph is assumed to be four times that to review an article, based on industry consultations. It is also assumed that there are two to three external peer reviewers, based on both the literature review and publishing industry consultations (median 2.5 per article and 2.25 per monograph).

Time spent reading an article and the number read per year are derived from the literature review (based primarily upon the US surveys of Tenopir and King, 2000). Time spent reading other materials are based on page count equivalents (at one hour per 20 pages).

Time spent on editorial activities is derived from the literature review and publishing industry consultations. It is assumed that editors spend 10 to 30 days per year on editorial activities and editorial board members spend one-half to one day per year. Activity and costs are scaled to publishing.

Publication data are taken from HERDC reporting and are unweighted counts averaged over two years (2002-03). While this may introduce some minor double counting in relation to collaboration, for the purposes used here it is a reasonable approximation.

Box 1. Key assumptions in research costings (cont.)

Peer review load is assumed to scale to production (i.e. if Australia publishes 2.9% of the world's papers, it peer reviews 2.9%, with inflow and outflow of international reviewing cancelling each other out). For journal articles it is assumed that 40% of manuscripts are rejected, of which 75% are re-submitted elsewhere. For monographs, chapters and refereed conference papers, it is assumed that 20% of manuscripts are rejected on first review, of which one-half are re-submitted elsewhere.

Preparation of grant application costs is based on the number of National Health and Medical and Australian Research Council applications, assuming that each takes a similar time to prepare as does a journal article. Counts include all ARC applications and the NHMRC grants for which a university is the administering institution (excluding affiliated hospitals and specialist centres). The commencing 2004 round is used in both cases.

Review of grant application costs is based on the number of ARC and NHMRC application reviews, that there are three to six external reviewers for ARC (median four) and two to five for NHMRC (median three), and that reviews take a similar time to conduct as peer review of a journal article (confirmed with both agencies). There is a further assumption that Australians do overseas reviews in proportion to the overseas reviewing done for them (with international reviewing cancelling out). The higher education load is estimated as all ARC assessments and scaled to that proportion of NHMRC grants that go to universities.

Editorial activities (AUD 37 million per annum)

Based on an extensive international survey of more than 5 500 researchers (Rowlands and Nicholas, 2005, 2006) supported by a more limited study (Deutsche Forschungsgemeinschaft, 2006), it is estimated that Australian higher education-based editorial activities relating to scholarly journals alone cost perhaps AUD 37 million a year – of which AUD 33 million might relate to editorial activities and AUD 3.5 million to editorial board activities. No account is taken of other editorial activities (e.g. internal working papers, contract research reports) or of activities relating to monographs. The level of payments and/or honoraria received in recompense for these activities is unknown, but in most fields is limited.

Reading (AUD 4 650 million per annum)

Based on extensive international surveys (Tenopir and King, 2000), it is estimated that reading by higher education staff may cost AUD 4.6 billion a year – of which around AUD 3 billion might relate to books, AUD 865 million to

journal articles and AUD 650 million to other research materials (e.g. conference papers, technical reports). Of the total, reading among the sub-set of higher education staff who are actively publishing (i.e. approximating reading in order to write) might cost AUD 2.7 billion.

Publishing costs

Publishing costs are based on a wide ranging review of studies of the costs associated with publishing (Tenopir and King, 2000; King and Tenopir, 1998, 2004; King, 2004; Waltham, 2005, 2006; Odlyzko, 1997; EPS, 2004, 2006; Bovenschulte, 2004; Dryburgh, 2002; Bergstrom and McAfee, 2005; SQW, 2003, 2004; Morris, 2005; Rowland, 2002; Donovan, 1998; HCSTC, 2004a; Regier, 1997; Fisher, 1997; Shirrell, 1997; Day, 1998; Hunter, 1998; Halliday and Oppenheim, 1999; Thompson, 2005; British Academy, 2005; Watkinson, 2001; Derricourt, 2005; Eve Gray and Associates, 2004), supplemented by local consultations with senior publishing industry executives. They are presented per item and as a total of those activities for Australia (based on higher education publishing activities).

It is estimated that publisher costs relating to those Australian higher education publications reported in the Higher Education Research Data Collection alone (i.e. peer reviewed scholarly material) amount to around AUD 150 million a year – of which AUD 90 million relates to journal articles, almost AUD 35 million to monographs, AUD 17 million to book chapters and around AUD 7 million to other publications (e.g. conference papers and proceedings, technical reports). While no specific costing is given, these publisher costs implicitly include rejected manuscripts and repeat submissions.

Box 2. Key assumptions in publishing costings

Per item publishing costs are based on “consensus” averages taken from a wide ranging literature review (see above). For research monographs, estimates are based on the literature review and consultations with senior publishing industry figures.

National and institutional publishing costs are based on the above and HERDC reporting of the number of items produced. Hence, they include no more than a subset of what is actually produced.

Library, access, repository and e-press costs

Library costs are calculated from the Council of Australian University Librarians library statistics for 2004 (CAUL, 2005). They reflect the per item and total acquisition and non-acquisition costs of Australian university libraries.

These university library and infrastructure costs are a part of higher education overhead costs and are, implicitly, already included within the research related activity costings outlined above.

Content acquisition (AUD 182 million per annum)

Those Australian university libraries reporting to the Council of Australian University Librarians (CAUL) reported total expenditure of almost AUD 500 million during 2004, of which AUD 182 million was spent on content acquisition – AUD 125 million on serials and AUD 56 million on non-serials (Table 2). In 2004, total acquisition expenditures amounted to around AUD 5 180 per full-time academic staff. On a per item basis, access to serial titles cost an average AUD 76 each, while non-serial items cost an average AUD 60.

Based on averages derived from an analysis of almost 5 000 journal titles (Bergstrom and McAfee, 2005), the implied cost of providing higher education access per journal article under CAUL subscriptions was less than one dollar (i.e. 63 cents). However, it should be noted that this estimate is no more than approximate because not all serial items are journals and some of the articles included within the subscription packages may be open access (i.e. free within the bundle).

Table 2. Content and infrastructure costing estimates for Australian higher education, circa 2004

AUD per annum

Annual content and infrastructure costs	Lower bound	Upper bound	Mean
Library acquisition	..	..	181 900 000
Library non-acquisition	..	..	316 800 000
Acquisition cost per serial title	..	..	76
Implied acquisition cost per article	..	..	< 1
Cost per download	1.24	10.11	4.49
Acquisition cost per non-serial item	..	..	60
Author-pays fees for all HERDC articles	13 500 000	80 800 000	47 100 000
Repository/archive costs (estimated)	2 000 000	10 000 000	6 000 000
Institutional e-press costs (estimated per e-press)	525 000	730 000	625 000
Research management (estimated)	..	..	36 800 000
ICT infrastructure (estimated total expenditure)	806 900 000	1 344 800 000	1 075 900 000

Source: Author's calculations based on the CSES project model.

The cost per download for a sample of seven of the larger publishers' packages subscribed to through CAUL during 2005 ranged from a low of around AUD 1.24 to a high of AUD 10.11 (weighted mean AUD 3.60, unweighted mean AUD 4.49) (Table 3). These compare favourably with the mean costs per download

Table 3. **Implied download costs for CAUL subscription packages, 2005**

	Downloads (full text, 2005)	Cost per download (AUD)
Publisher A	172 353	9.02
Publisher B	234 082	10.11
Publisher C	339 282	1.24
Publisher D	555 148	2.07
Publisher E	1 067 069	5.31
Publisher F	1 046 072	1.53
Publisher G	323 543	2.16
Mean of packages		4.49
Weighted mean of downloads		3.60

Note: These publishers account for around half CAUL libraries' serials expenditure. Not all parties to the consortia are Australian higher education institutions.

Source: Author's calculations based on CAUL data.

across four major publishers reported from a sample of UK academic research libraries of AUD 3.25 to AUD 7.30 (unweighted mean AUD 5.00) (Woodward and Conyers, 2005).

Non-acquisition (AUD 317 million per annum)

CAUL libraries reported non-acquisition expenditure of AUD 317 million during 2004. While the actual distribution of these expenditures is unknown, the implied non-acquisition costs per content item held was AUD 10. If non-acquisition costs are distributed in proportion to acquisition costs, implied serials handling costs amount to AUD 218 million (AUD 132 per current title held) and implied non-serials handling costs amount to AUD 98 million (AUD 6.12 per item held). It should be noted, however, that library reporting varies in terms of what is included in overheads.

Open access “author-pays” publishing (AUD 47 million per annum)

There is a wide range of author fees charged by “author-pays” journals, with references in the literature and many specific cases ranging from USD 500 to USD 3 000. At the mean of USD 1 750 per published article, “author-pays” would have cost Australian higher education institutions around AUD 47 million during 2003 if all articles had been published on an “author-pays” basis.

Open access repositories (AUD 2 to 10 million per annum)

A wide range of open access institutional repository establishment and operational costs are reported in the literature (Odlyzko, 1997; Getz, 2005; Hickerson, 2004; Swan and Brown, 2005; Kemp, 2005; Swan *et al.*, 2004; Swan and Needham, 2005; HCSTC, 2004b; Rankin, 2005; Carr and Harnad, 2005; Moranti, 2005; Hunter and Day, 2005; Crow, 2002). This range is due to the

Box 3. Key assumptions in library costings

Library costs are derived primarily from the Council of Australian University Librarians statistics relating to higher education and to individual institutions. CAUL totals are those of the Australian member institutions. However, some of the consortial deals include non higher education partners and New Zealand universities. In such cases, calculations, such as cost per download, refer to the consortium administered by CAUL and not necessarily an Australian national total.

Access and usage costs are derived from CAUL statistics and a range of publishing industry sources. Subscription prices paid by individual institutions are often based on their historical print subscription expenditures and vary considerably from one institution to another. Moreover, statistical collections are neither entirely comparable nor complete. As a result, cost per download estimates can be no more than indicative.

Open access archive and repository costs are based on “consensus” lower and upper bound estimates taken from an extensive review of the literature (see below), supplemented by local consultations. Counts are derived from eprints.org surveys and from local case studies.

extensive content scope and functionality offered and to varying practices regarding the inclusion of overhead and “in-kind” costs. A review of the literature would suggest average establishment costs of around AUD 9 000 and annual operating costs ranging from a low of AUD 4 000 to a high of AUD 80 000 per year (mean AUD 41 000). Assuming a five year depreciation of establishment costs, then on these figures mean annual costs per repository would be around AUD 42 500.

In January 2006, there were 23 Australian open access repositories with around 62 000 records listed by *eprints.org*. Hence, current estimated costs would be around AUD 1 million per year, implying that the total costs of operating institutional repositories for all higher education institutions in Australia might be of the order of AUD 2 million a year (with substantial variation). On a per item basis, it is estimated that it costs between AUD 18 and AUD 27 (mean AUD 23) to deposit an item on an open access repository if it is done by the author, and probably somewhat less if done by a dedicated member of staff. Nationally, this would imply a cost of some AUD 700 000 a year to deposit (i.e. self-archive) those publications reported in the Higher Education Research Data Collection alone (excluding edited books).

The level of functionality, the extent of advocacy, the level of policy engagement, and the extent of integration with a broader range of objects than simple eprints (e.g. monographs), generic digital curation, e-research

infrastructure and activities, capture and/or digitisation of historical and cultural collections, learning objects, etc. are all crucial determinants of repository costs. Canvassing a small number of local examples unveiled annual repository costs of up to AUD 275 000 when all expenditures and staff time are included (costed as above). It should be noted that this may include some non-repository activities and undoubtedly includes early phase development costs.

These cost levels would suggest that total costs of operating institutional repositories for all higher education institutions in Australia might be up to AUD 10 million a year at the upper end, although the potential for the followers to learn from the experience of the leaders may reduce this significantly. Nevertheless, taking account of the policy, advocacy, management and operation of a substantial institutional repository and fully costing staff time involved suggest that institutions might expect costs to be of the order of AUD 200 000 a year.

E-presses (AUD 625 000 each)

The convergence of institutional e-presses (i.e. electronic only, online university presses) and open access archives/repositories is another development which is having a significant impact on scholarly publishing. Institutional repositories can provide a vehicle for institutional e-presses and help to minimise e-press publishing costs.

Information is limited, with few established e-presses operating in Australia, a range of strategies being pursued and a variety of services and scale. Nevertheless, indicatively, the Australian university e-presses studied reported direct staffing costs of around AUD 180 000 to AUD 250 000 a year. Applying the AVCC full cost recovery formula these are equivalent to annual operating costs of AUD 525 000 to AUD 730 000 (mean AUD 625 000 per annum). At these cost levels, per title monograph production costs appear similar to those of traditional print publishers. As in the case of open access archives and repositories, however, downloads appear to significantly exceed the sales of print copies of similar titles.

Research infrastructure and management costs

Research infrastructure and management costs relate to higher education information and communications technology (ICT) system costs, the management and operation of research funding and grant systems, the operation of institutional research offices for the collection and reporting of research outputs for evaluation, and the research time involved in them. Full costing would also include the operation of granting agencies and bodies.

ICT expenditure in higher education (AUD 1 billion per annum)

Preliminary findings from a Council of Australian University Directors of Information Technology (CAUDIT) benchmarking study suggest that higher education institutions typically spend between 6% and 10% of their total income on ICT (including hardware, software, staff, outsourcing and maintenance). This suggests total higher education ICT expenditure of the order of AUD 1 billion in 2004. There is insufficient information available to be able to apportion this expenditure between research, teaching and administrative activities.

Research grants (AUD 160 million per annum)

As noted above, it is estimated that the preparation of National Health and Medical and Australia Research Council grant applications in Australian higher education institutions alone cost between AUD 80 million and AUD 140 million during 2004 (mean AUD 114 million). External peer review costs associated with such grants are estimated to have been around AUD 20 million. No account is taken of other research grant sources and activities.

Research Council (ARC and NHMRC) agency costs amounted to around AUD 25 million, of which more than AUD 15 million were staff costs. There is insufficient information available to be able to apportion this expenditure between higher education and other institutions. No account is taken of other research granting agencies and activities, or of the monitoring and management thereof.

University research office operations (AUD 35 million per annum)

There is no central reporting of the activities of university research offices comparable to that of libraries (CAUL) and IT services (CAUDIT). Moreover, structures and activities vary widely, with some research offices operating centrally while others are more diffuse (*e.g.* decentralised data collection done within departments and faculties). Hence, it has not been possible to estimate the costs involved with any accuracy.

Nevertheless, based on the extrapolation of three diverse cases on a full-time equivalent staff basis, Australian higher education research office annual operating expenditures may be of the order of AUD 35 million, employing perhaps 350 staff. There is insufficient information to be able to apportion this expenditure between research reporting and other activities, and no account is taken of the reporting burden at the department and faculty levels.

Per item system costs of publications

The cost model created for the project is activity based, but it is possible to calculate approximate estimates of system costs per item (*e.g.* the system

Box 4. Key assumptions in research management costings

As noted, **preparation of grant application costs** is based on the number of Research Council (ARC and university based NHMRC) grant applications, assuming that each takes a similar time to prepare as a journal article.

The **review of grant application costs** is also based on the number of Research Council grant applications, assuming that there are three to six reviewers for ARC and two to five for NHMRC, and that reviews take a similar time to conduct as the peer review of a journal article. There is a further assumption that Australians do overseas reviews in proportion to the overseas reviewing done for them.

Research offices' operation costs are derived from consultations and a small number of local cases, with the national cost estimated based on scaling by the number of research active staff.

ICT infrastructure costs have been estimated from preliminary CAUDIT benchmarking survey results.

costs of a journal article or research monograph or book). However, it should be noted that costs cannot simply be added – as library acquisition costs include publisher costs.

Journal article production (AUD 19 000)

The production of a journal article in Australian higher education institutions is estimated to cost from AUD 12 500 to AUD 25 000 (mean AUD 19 000), depending primarily upon the salary levels of the author(s) and peer reviewers (Table 4). Of the AUD 19 000, a mean of almost AUD 13 000 might relate to writing, some AUD 4 500 to publisher costs and AUD 1 700 to peer review. Library acquisition and handling costs amount to around AUD 2 per article.

Research monograph production (AUD 224 000)

The production of a research monograph or book in Australian higher education institutions is estimated to cost from AUD 155 000 to AUD 285 000 (mean AUD 224 000), depending primarily upon the salary levels of the author(s) and peer reviewers. Of the mean AUD 224 000, a mean of AUD 154 000 would relate to writing, some AUD 64 000 to publisher costs (per title), and AUD 6 000 to peer review. Library acquisition and handling costs amount to around AUD 65 (per item).

Table 4. **Per item costing estimates for Australian higher education**

Item costs, per item (AUD circa 2004)	Lower bound	Upper bound	Mean
Cost of a journal article			
Writing	8 700	16 200	12 900
Peer review	700	2 900	1 700
Publisher related	3 100	6 000	4 500
Library acquisition	0.63	0.63	0.63
Library handling	1.10	1.10	1.10
<i>Per article production</i>	<i>12 400</i>	<i>25 000</i>	<i>19 100</i>
Publisher share of production costs	25%	24%	24%
Cost of a research monograph			
Writing	104 600	194 100	154 300
Peer review	2 600	11 600	6 100
Publisher related	48 000	78 500	63 800
Library acquisition (per item)	60	60	60
Library handling (per item)	6	6	6
<i>Per monograph production</i>	<i>155 100</i>	<i>284 300</i>	<i>224 100</i>
Publisher share of production costs	31%	28%	28%

Note: Monograph/book costs are per title costs, except those relating to library acquisition and handling, which are per unit.

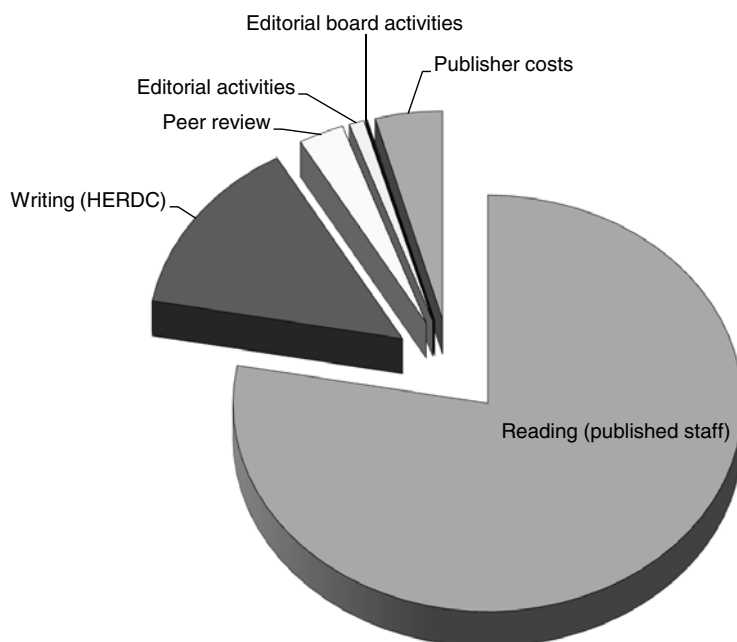
Source: Author's calculations based on the CSES project model.

Total scholarly communication system costs

Clearly, research communication costs are significant. Summing the estimated costs associated with core scholarly communication activities in Australian higher education (including higher education related ARC and NHMRC research grant application and review, reading for those higher education staff actively producing HERDC compliant publications, writing HERDC publications, related peer review and editorial activities, and related publishing costs) gives an approximate estimate of overall system costs of between AUD 2.6 billion and AUD 4.6 billion (mean AUD 3.6 billion) per year (Figure 2). By focusing on reading by publishing active staff only, we are approximating the research and research communication cycle of reading in order to write, and excluding reading by teaching staff and those not actively publishing.

Nationally, these scholarly research and research publishing related costs amount to around 30% of total higher education expenditures – with the other activities of teaching, administration and management, and research that does not result in formally published outputs (e.g. contract research reports) accounting for the remainder.

In most cases it was possible to estimate costings for individual higher education institutions. However, it should be noted that disaggregated data are substantially less reliable. They are at best indicative, and should be taken as no more than an approximate guide. Houghton et al. (2006, pp. 24-30)

Figure 2. **Scholarly communication system cost shares**

Source: Author's calculations based on the CSES project model.

presented estimated mean annual scholarly communication related activity, content access and infrastructure costings for all higher education institutions in Australia. Overall, they suggest that these research and scholarly publishing activities account for between 10% and 45% of total institutional expenditures, depending upon the research (publishing) intensity of the institution.

Acknowledgements

The authors would like to acknowledge the support of the Systemic Infrastructure Initiative, a part of the Australian Commonwealth Government's *Backing Australia's Ability – An Innovation Action Plan for the Future*.

The authors:

Prof. John W. Houghton
 Centre for Strategic Economic Studies
 Victoria University
 Melbourne VIC 8001
 Australia
 E-mail: john.houghton@vu.edu.au

Colin Steele
Director, Scholarly Information Services and University Librarian
The Australian National University
Canberra ACT 0200
Australia
E-mail: colin.steele@anu.edu.au

Prof. Peter Sheehan
Centre for Strategic Economic Studies
Victoria University
Melbourne VIC 8001
Australia
E-mail: peter.sheehan@vu.edu.au

References

- AVCC (Australian Vice-Chancellors' Committee) (1996), *University Research: Some Issues*, AVCC, Canberra.
- Bergstrom, T. and R.P. McAfee (2005), *An Open Letter to All University Presidents and Provosts Concerning Increasingly Expensive Journals*.
- Bovenschulte, R. (2004), *Electronics Scientific, Technical and Medical Journal Publishing and Its Implications*, National Academies Symposium, Washington.
- British Academy (2005), *E-resources for Research in the Humanities and Social Sciences*, British Academy, London.
- Carr, L. and S. Harnad (2005), *Keystroke Economy: A Study of the Time and Effort Involved in Self-Archiving*, <http://eprints.ecs.soton.ac.uk/10688/>, accessed 21 May 2008.
- CAUL (Council of Australian University Librarians) (2005), *CAUL Statistics*, CAUL, Canberra.
- Crow, R. (2002), *The Case of Institutional Repositories: A SPARC Position Paper*, Scholarly Publishing and Academic Resources Coalition (SPARC), Washington.
- Day, C. (1998), "Digital Alternatives: Solving the Problem or Shifting the Costs?", *Journal of Electronic Publishing*, Vol. 4, No. 1.
- Derricourt, R. (2005), "Wither the Publisher? – Publishers Respond", *Campus Bookseller and Publisher*, August, p. 16.
- Deutsche Forschungsgemeinschaft (2006), *Publishing Strategies in Transformation?*, Wiley-VCH, Weinheim.
- Donovan, B. (1998), "The Truth about Peer Review", *Learned Publishing*, Vol. 11, No. 3, pp. 179-184.
- Dryburgh, A. (2002), *The Costs of Learned Journal and Book Publishing: A Benchmarking Study for ALPSP*, Association of Professional and Learned Society Publishers, Worthing.
- EPS (Electronic Publishing Services) (2004), *STM Book Publishing: A Sector in Crisis?*, EPS Focus Report, EPS, London.

- EPS (2006), *UK Scholarly Journals: 2006 Baseline Report*, Research Information Network, Research Councils UK and Department of Trade and Industry, London.
- Eve Gray and Associates (2004), *Digital Publishing and Open Access for Social Science Research Dissemination*, paper presented at the CODESRIA "Conference on Electronic Publishing and Dissemination", Dakar, 1-2 September.
- Fisher, J.H. (1997), "Comparing Electronic Journals to Print Journals: Are There Savings?", "Scholarly Communication and Technology Conference", The Andrew W. Mellon Foundation, Emory University, 24-25 April.
- Getz, M. (2005), *Open Scholarship and Research Universities*, Vanderbilt University.
- Halliday, L. and C. Oppenheim (1999), *Economic Models of the Digital Library*, eLib, United Kingdom Office of Library and Information Networking, London.
- Halliday, L. and C. Oppenheim (2000), "Economic Models of Digital Only Journals", *Serials*, Vol. 13, No. 2, pp. 59-65.
- HCSTC (House of Commons Science and Technology Committee) (2004a), *Scientific Publications: Free for All?*, Tenth Report of Session 2003-04, The Stationery Office, London.
- HCSTC (2004b), *Responses to the Committee's Tenth Report, Session 2003-04, Scientific Publications: Free for All?*, The Stationery Office, London.
- Hickerson, T.H. (2004), *Project Euclid and the ArXiv: Complimentary and Contrasting Elements for Sustainability*, Cornell University Library, Ithaca, NY.
- Houghton, J.W., C. Steele and P.J. Sheehan (2006), *Research Communication Costs in Australia: Emerging Opportunities and Benefits*, Department of Education, Science and Training, Canberra.
- Hunter, K. (1998), "Electronic Journal Publishing: Observations from the Inside", *D-Lib Magazine*, Vol. 4, No. 7, July/August.
- Hunter, P. and M. Day (2005), *Institutional Repositories, Aggregator Services and Collection Development*, ePrints UK supporting study, No. 2 Version 0.2, 24 January.
- Kemp, R. (2005), *Costs of Running Open Source Institutional Repositories*, University of North Carolina Wilmington.
- King, D.W. (2004), "Should Commercial Publishers Be Included in the Model for Open Access through Author Payment?", *D-Lib Magazine*, Vol. 10, No. 6, June.
- King, D.W. and C. Tenopir (1998), "Economic Cost Models of Scientific Scholarly Journals", *Proceedings of ICSU Press Workshop*, University of Oxford, 31 March-2 April.
- King, D.W. and C. Tenopir (2004), "An Evidence-based Assessment of the Author-pays Model", *Nature*, Web Focus: Access to the Literature, Nature Publishing Group, 25 June.
- Mornati, S. (2005), *The Costs of Setting Up and Maintaining Institutional Repositories*, CILEA – Inter-Academic Consortium for ICT.
- Morris, S. (2005), "The True Cost of Scholarly Journal Publishing", *Learned Publishing*, Vol. 18, No. 2, pp. 115-126.
- Odlyzko, A. (1997), "The Economics of Electronic Journals", *First Monday*, Vol. 2, No. 8.
- Rankin, J. (2005), *Institutional Repositories for the Research Sector: Feasibility Study*, National Library of New Zealand, Wellington, July.

- Regier, W.G. (1997), "Epic: Electronic Publishing is Cheaper", "Scholarly Communication and Technology Conference", The Andrew W. Mellon Foundation, Emory University, 24-25 April.
- Rowland, F. (2002), "The Peer-review Process", *Learned Publishing*, Vol. 15, No. 4, pp. 247-258.
- Rowlands, I. and D. Nicholas (2005), *New Journal Publishing Models: An International Survey of Senior Researchers*, CIBER report for the Publishers Association and the International Association of STM Publishers.
- Rowlands, I. and D. Nicholas (2006), "The Changing Scholarly Communication Landscape: An International Survey of Senior Researchers", *Learned Publishing*, Vol. 19, No. 1, pp. 31-55.
- Shirrell, R. (1997), "Comments: Economics of Electronic Publishing: Costs Issues", "Scholarly Communication and Technology Conference", The Andrew W. Mellon Foundation, Emory University, 24-25 April.
- SQW (2003), *Economic Analysis of Scientific Research Publishing*, report commissioned by the Wellcome Trust, London, January.
- SQW (2004), *Costs and Business Models in Scientific Research Publishing*, report commissioned by the Wellcome Trust, London, April.
- Swan, A. and S. Brown (2005), *Open Access Self-archiving: An Author Study*, Key Perspectives, Truro.
- Swan, A. and P. Needham (2005), "Developing a Model for E-prints and Open Access Journal Content in UK Further and Higher Education", *Learned Publishing*, Vol. 18, No. 1, pp. 25-40.
- Swan, A. et al. (2004), *Delivery, Management and Access Model for E-prints and Open Access Journals within Further and Higher Education*, EPIC and Key Perspectives.
- Tenopir, C. and D.W. King (2000), *Towards Electronic Journals: Realities for Scientists, Librarians and Publishers*, SLA Publishing, Washington.
- Thompson, J.B. (2005), *Books in the Digital Age*, Polity Press, Cambridge.
- Waltham, M. (2005), *JISC: Learned Society Open Access Business Models*, JISC, London and Bristol.
- Waltham, M. (2006), "Learned Society Business Models and Open Access: Overview of a Recent JISC Funded Study", *Learned Publishing*, Vol. 19, No. 1, pp. 15-30.
- Watkinson, A. (2001), *Electronic Solutions to the Problems of Monograph Publishing*, The Council for Museums, Archives and Libraries, London.
- Woodward, H. and A. Conyers (2005), "Analysis of UK Academic Library Journal Usage", presentation to the Charleston Conference, 2-5 November.

Introducing Entrepreneurship Teaching at Select German Universities: The Challenge of Change

by

Gudrun Curri

Dalhousie University, Canada

In the recent past, universities in the western world have been expected to play a greater role in the national economic welfare of their countries in addition to their traditional role of education and research. In 1997, following the examples of national governments in Australia, Canada and the United Kingdom, the German government launched an entrepreneurship initiative at universities. Two of its goals were entrepreneurial teaching and culture. I decided to explore how universities participated in, implemented and evaluated the public initiative to introduce entrepreneurship into German universities.

During interviews with senior academic administrators at 22 tertiary institutions, I collected data on leadership, organisational re-design and development, recipients of change, and academic and administrative cultures. Similar to Clark (1998, 2004) and Gjerding et al. (2006), introducing entrepreneurship into university culture requires support both from the top and the bottom, especially the faculty. Academic decision makers behave entrepreneurially to external opportunities for financial and/or branding reasons but they respect their colleagues' decisions whether to join. The traditional inter/intra faculty model needs to include external stakeholders for entrepreneurial teaching initiatives. German universities have been successfully using this model for external research programmes without changing their core purpose: teaching and research.

Background

Higher education and its roles

Tertiary institutions play an important role in society and have done so over centuries. More recently, in the western world, their role has been changing. Governments expect universities to support local, regional and national economic development, in addition to providing trained manpower and creating knowledge (Clark, 1998; Shattock, 2005; Kitagawa, 2005). They often provide earmarked funding as a steering device to announce public policies and implement new strategies (Gordon, 2003). With globalisation, moreover, knowledge transfer from universities to the private sector needs to occur rapidly and be translated into goods or services to benefit the market economy. It is the combination of knowledge transfer and entrepreneurship that is the engine of economic development (Newby, 2003).

Based on a number of studies, Germany's *Bundesministerium für Bildung und Forschung* (BMBF, *Federal Ministry of Education and Research*) concluded that there was a significant time lag before German university graduates started their own business (BMBF, 2002). To shorten this time lag, BMBF recommended that students should be exposed to an entrepreneurial culture at the beginning of their academic studies at universities. This would help graduates accept entrepreneurial risk earlier in their career, and knowledge transfer from the academy would occur sooner, both benefiting the economy earlier. To achieve this goal, in 1997 BMBF created EXIST (Entrepreneurship at Tertiary Institutions), based on the centre of excellence model, that would introduce an entrepreneurial culture into university programmes.

The purpose of this research was to analyse why universities participated in the EXIST initiative, how it was introduced and implemented, what organisational structural changes (if any) were made, how the professoriate reacted, and how academic administrators evaluated the EXIST initiative. I hoped that the findings could assist university administrators seeking to introduce entrepreneurship into the teaching culture of their institutions. More generally, the aim of the study was to enhance our understanding of the factors at play in the process of bringing public policy to bear on higher education and, in the process, build on previous studies in Australia and Canada (Curri, 2001, 2002).

Higher education and change

Public tertiary institutions have traditionally been slow in responding to the need for organisational change. Even private colleges and university administrators in the United States who enjoy a high degree of self-determination have lamented the glacial pace of implementing organisational change (Cohen, 2003). The need to reform the German higher education sector has been accepted by federal and state legislators, by students, and by the public (Koch, 2002/03; Grimm and Huettche, 2004; Liesner, 2006; Pritchard, 2006).

Changing the culture of a single organisation let alone an entire sector is a daunting undertaking. Weick (2000) argues that the model of change, described by Lewin (1951) as a three-step process of “unfreezing, transformation, refreezing” must now be replaced by an “emergent model of change”. Much has been written about why so many transformational change efforts fail (Kotter, 1998; Beer *et al.*, 2003). Changing the culture of an organisation is a long term project often extending over ten years, particularly in tertiary education institutions (Cohen, 2003; Moore, 2003). Nonetheless, with changing expectations by governments and other external agencies, institutional environments have changed, becoming more complex, and the academic culture needs to reflect this new reality (Gordon, 2003). Educational leaders have realised that effecting change in tertiary institutions involves much more than merely making decisions, it requires a long-term commitment (Glavin, 2003). The Australian experience suggests that where public tertiary institutions have attempted to change, often in response to government policy, the initial result may be more perception than reality (Curri, 2002).

Entrepreneurship and higher education

Thirty years ago, 16 universities and colleges in the United States were offering entrepreneurship programmes to business and engineering students (Koch, 2002/03). Entrepreneurship programmes were designed to teach students “a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced” (Timmons and Spinelli, 2007, p. 79). By 1999, acting on their own initiative, over 1 000 American colleges, universities and community colleges were teaching entrepreneurship either as specialised courses or throughout the curriculum (Timmons and Olin, 1999). The same authors claim that the dream “to own one’s own business” is shared by 70% of American high school graduates and has never been stronger than at the beginning of the 21st century. Canadian universities followed their neighbour’s lead later and began offering entrepreneurship education in the 1970s (Vesper and Gartner, 1997; Timmons and Olin, 1999). British universities were offering courses in the 1990s (Galloway *et al.*, 2005), but it was not until 1998 that entrepreneurship became part of a university curriculum in Germany (Koch, 2002/03).

Universities play a critical role in educating and training the future technical and professional labour force of a country while at the same time creating new knowledge and processes, some of which are intended to enhance the productive capacity of all its citizens. This is particularly true at the end of the 20th century when the number of jobs in large corporations decreased significantly with the change from an industrial economy to a knowledge economy (Andretsch, 2004). Small and mid-sized businesses have become the economic drivers and provide the majority of jobs (Koch, 2002/03). Enterprise education in the United States today enjoys public support, being seen as the bridge between knowledge and economic activity that creates small business activities and produces effective/successful managers (Hytti and O’Gorman, 2004).

EXIST: a German government initiative to introduce entrepreneurship into higher education

In December 1997, the German Ministry of Education and Research announced a new initiative, the EXIST competition, designed to: a) intensify the knowledge transfer from tertiary institutions to the private sector; b) increase the creation of innovative new businesses and jobs; c) support entrepreneurship in higher education; and d) encourage the establishment of an entrepreneurship culture within higher education in teaching, research and the administration. To increase regional effectiveness of job creation, applications could be submitted only by a consortium of at least three partners from a region. At least one partner had to be a tertiary institution. An independent jury selected five regions differing significantly from each other in population size and geography. In terms of their economic, social and cultural characteristics, the five consortia represent different regions within Germany: two are located in the former East Germany (Dresden Exists, GET UP) and three are in the former West Germany (Bizeps, KEIM, PUSH) (BMBF, 2001).

To introduce an entrepreneurial curriculum, universities within EXIST consortia would receive funding to develop, deliver and evaluate new teaching material, use different technology and methodology, and hire teaching staff from the academic and private sector (BMBF, 2001). Exposing students early in their academic studies to entrepreneurship was one of the fundamental EXIST requirements. Different goals applied to other programme requirements. To receive the EUR 1 million funding, each consortium had to meet all EXIST requirements.

The five EXIST consortia were launched by the Minister of Education and Research late in 1998. In September 2001, the Minister announced that in the summer semester of 2000 over 250 courses in entrepreneurship had been offered, and that entrepreneurship chairs had been established in all participating EXIST universities. She commended the five network partners for their efforts in

motivating and supporting prospective entrepreneurs – students and professors – and noted the successful introduction of interdisciplinary and praxis-oriented entrepreneurship in higher education (BMBF, 2001). She further stated that the EXIST initiative had had positive effects on a large number of tertiary institutions that were not part of the programme but had decided to introduce entrepreneurship into their curricula. She planned to extend EXIST to other regions and hoped that they would benefit from the experience of the original network partners (BMBF, 2001). At the end of 2001, a second competition, “EXIST-Transfer” (EXIST II), was launched to fund an additional ten networks. As with the first initiative, the programme covered a three-year period. Original networks would also be given an additional three years of funding. In 2002, the EXIST-Partner initiative enlarged the network to 20 regions. EXIST III was launched in 2006 to further enhance entrepreneurship at universities and to include research institutions. Overall, after ten years EXIST has achieved some of its goals in higher education: introduction of entrepreneurship courses in some faculties (mostly management), and greater awareness of students about the topic. However, according to the current Federal Minister of Economics and Technology (BMW, 2007), more needs to be done to embed entrepreneurship into the traditional teaching culture of universities which EXIST III is designed to accomplish.

As my research interest over a number of years has been the effect of public policy changes on tertiary education, I decided in 2004 that here was a need to ask the following questions again but in a different context: To what extent do public policy decisions change the teaching culture of tertiary institutions? How much is fact *versus* wishful thinking? My German research sponsor hoped that the study would also shed light on which organisational model is the most effective for new initiatives: a) the integration or inter-faculty model that integrates new initiatives into the existing structure of the university; b) the satellite model that creates a new independent organisation with university and regional businesses stakeholders to implement new initiatives; c) the combination model having characteristics of both a) and b) to implement new initiatives. The integration model has traditionally been used to introduce new academic programmes and disciplines into university structures and the processes of central, faculty and departmental administrations. This model reflects a decision by the academic community to fully integrate new initiatives into the university, e.g. creating an entrepreneurial chair. The satellite model is used to implement new programmes, often government and/or industry initiatives, which are shared among a number of stakeholders with the university being a major one by providing professors. To implement and administer such an initiative, a council or board with decision-making authority and representation of all stakeholders is created. Support units are established to implement the initiative within a framework accepted by all stakeholders

but which operates outside traditional university structures, processes and cultures. The combination model represents a hybrid of these two models. Its aim is to embed new academic initiatives into the university's values and teaching culture but allows support functions to operate outside traditional hierarchical university structures and processes. Under the guidance of the university, an independent administrative office or unit linking the university administration and external stakeholders is responsible for implementing the new initiative, *e.g.* technology transfer offices. The combination model offers a variety of options depending on the goals of the academic institution, specific initiative requirements and/or external stakeholders' needs.

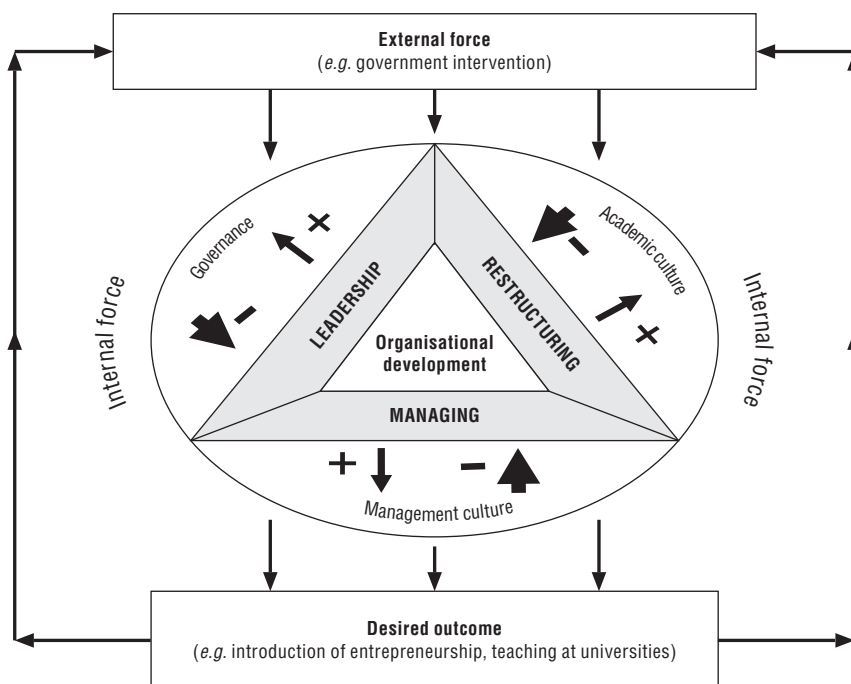
The research and its findings

Methodology

Based on my previous research of government attempts to influence or change higher education in Australia and Canada, I developed the "Triad Model of Change" that explains the relationship between the organisational elements and the barriers to change and the forces for change (Curri, 2002), Figure 1. The model links leadership, organisational design, management of interpersonal relations and organisational development as the primary elements of the Triad. The model asserts that if the internal force (the resistance of the academic and management cultures to change) persists against the external force (the coercive power of government exercised through financing, regulation, evaluation, etc.), no change will occur and the *status quo* will be maintained.

Although EXIST had four specific goals (see above), I decided to focus on how senior members of EXIST institutions proceeded to introduce entrepreneurship teaching. I used the Triad model as the theoretical framework for developing closed and open-ended research questions which were translated into German. The University of Kassel, as the lead partner of the START Intra + Entrepreneurship Network within EXIST-Transfer, was the test interview partner. Four pilot interviews were conducted and, as a result, two questions were added.

Of the 22 tertiary institutions in the original EXIST programme (Wuest and Werp, 2004), 16 participated in this study, 9 traditional universities and 7 universities of applied science. Requests for interviews were accepted by 13 rectors, by 17 entrepreneurship chairs (some institutions have more than one chair) and by all regional EXIST administrators. Thirty-three individuals were interviewed in person and two answered the research questions in writing. The interviews were digitally recorded and later transcribed; the written responses were added to the data. Responses reflect the views of 5 EXIST administrators and 30 academics and thus are biased towards the latter.

Figure 1. **Triad model of change**

Responses from the 35 participants provided both qualitative and quantitative data. Answers to open-ended questions were coded using qualitative content analysis. Responses to closed questions were used to create data sets and analysed using the Statistical Package for the Social Sciences. The Pearson correlation coefficient r was used to calculate correlations and Spearman to determine correlations between non-parametric data (Gaito, 2004).

I analyzed the quantitative data sets to determine whether any significant correlations would be revealed. Specifically, I wanted to determine whether there are relationships between who made the decision to enter the EXIST competition and how well the programme was working; between what type of new unit was created to implement EXIST and what curricular changes took place; between who was involved in the decision to compete for EXIST and the academic and management cultures of the institution. Other than the questions on the type of integration and how well the EXIST programme was working (see below), there were no significant correlations. To check for consistency, the Cronbach's α was used on parametric scores. A 0.796 reliability coefficient meets the standard of 0.80 as acceptable. A number of unexpected correlations at 0.01 and 0.05 levels of significance are, however, worth noting.

Findings

For ease of analysis, both qualitative and quantitative findings are combined and are reported in point form due to space considerations. Including both types under one topic will provide a deeper insight into the research questions (Jick, 1979).

Government initiative: Who makes the decisions?

- When deciding whether to participate in the EXIST competition, the higher the position of the decision maker the greater was the tendency not to consult with lower position holders. Respondents, whatever their level in the organisational hierarchy, did not appear to be concerned about this.
- 80% of presidents decided to participate in the EXIST initiative to advance the position of their institutions for financial and strategic reasons.
- 20% of respondents were supportive of the notion that universities need to foster connections with the regional corporate sector.
- Where a research culture with industry already existed, respondents were “[pleased that] the rector was very engaged and played an important role [in supporting entrepreneurship teaching]”.
- When choosing the organisational structure for future initiatives similar to EXIST, presidents opted for the combination model although they had initially selected the integration model for the EXIST.

The organisational structure: Which model is most effective?

- While respondents strongly supported initially the university integration model for EXIST, over 75% rated the implementation as only acceptable and often with hesitation.
- One-third of the respondents would again choose the integrated model for future external initiatives. Of the remainder, the majority would opt for the combination model with its flexibility and potential to improve future integration of external initiatives.
- The longer respondents had been in their current positions the more likely they were to opt for future EXIST initiatives as satellite units outside the traditional university organisational structure.
- Respondents new to the institution (entrepreneurship professors were often recent hires) and, therefore, less integrated into the university preferred the combination model because “[they] wanted things done”.
- There was strong support for the integration model when respondents judged collegiality high.
- In contrast, if respondents judged collegiality to be low, there was a tendency to recommend a combination of the integration and satellite models.

Organisational culture: Which factors support/hinder change?

Collegiality

- Respondents judged collegiality strongest between their discipline and their faculty.
- If EXIST was implemented only at the discipline level, respondents viewed the management culture as bureaucratic; i.e. interacting with other disciplines or faculties was difficult.
- If EXIST was implemented at the inter-faculty level, respondents judged the management culture to be participatory.

Seeking commitment

- Personal approaches by deans or presidents/rectors to faculty members known to have entrepreneurial experience were most common and effective: “Colleagues with business experience were approached and asked if they would be interested [to participate in EXIST].”
- Faculty meetings, followed by public relations activities promoting EXIST, were the second most common tactic.
- In one region which has a history of “[recognising] the necessity of universities to support entrepreneurship in industry”, respondents needed little convincing to support EXIST.
- No respondent reported feeling pressured to participate in the EXIST programme.
- One entrepreneurship chair expressed his frustration with the lack of interest by his colleagues to his requests they become involved in the programme: “Entrepreneurship does nothing for me, it’s not my field, does not interest me.”

Organisational development: What motivates academics to change?

- When asked what incentives respondents were offered by the university to encourage them to include entrepreneurship in their curricula, half of them answered “none”. One respondent mentioned: “For some time we worked on an incentive system but it did not work, did not motivate other colleagues.” Very few mentioned additional research monies that had been made available to faculty members as a result of EXIST funding.
- When asked what motivated respondents to introduce entrepreneurship into their curricula, they mentioned “self-motivation due to interest in the field”, “good will by helping young people” and “increased image by having access to the rector”.

- When asked what additional assistance respondents had received from the university when introducing entrepreneurship into their curricula, fewer than half reported receiving some staff or administrative support. One third indicated that their teaching loads had been reduced.

Discussion and reflections on results

As stated earlier, the purpose of this study was to find out why senior academic administrators decided to compete in EXIST, whom they consulted in making that decision, how they implemented EXIST and what steps they took to gain acceptance from their academics to include entrepreneurship in the curricula as part of EXIST.

University leaders: What role do they play in changing academic culture?

Is it possible for senior academic administrators to change the culture of their institution? In the corporate world, the champion of cultural change must be the chief executive officer (Kanter *et al.*, 1992; Collins and Porras, 1998; Jick, 2003). In the academic world, neither presidents nor deans have similar power to change the values, norms and attitudes of their academic colleagues (Birnbaum, 1992; Gallos, 2002). However, presidents or deans who lead by example and are inclusive may be able to lead those who are self-motivated, and thus be able to initiate the process of cultural change (Moore, 2003). For transactional change to occur it is critical to build commitment in the early stages among those who will be affected by the change (Kotter, 1998; Jick, 1993).

In this study, most presidents/rectors and a few deans championed the EXIST programme which was critical for its success. However, they did not consult widely when making the decision to participate in the EXIST programme. Their top-down decision-making style was not conducive to garnering buy-in from faculty members at the early stage of change. Consequently, there was considerable resistance from professors throughout the universities to adopt entrepreneurial teaching. Would their resistance have been less had senior academic administrators adopted a more inclusive process as is suggested by the change literature? This requires further investigation.

To implement change, the change literature argues that barriers to change must be removed early on (Kotter, 1998; Jick, 2003; Clark, 1998, 2004; Gjerding *et al.*, 2006). By deciding at the outset not to change the structures and processes of their institutions to support a new teaching strategy, which also involves external stakeholders, senior academic administrators assumed that the existing organisational model would suffice to implement the new strategy. They did not recognise that implementing a new teaching strategy could be hindered by old organisational structures and processes. Perhaps one reason for that decision

was that the initial EXIST programme was a three-year commitment by the federal government, and senior administrators may have considered this too short a time frame to warrant changing the traditional hierarchical structure of their universities. On the other hand, they may have felt that maintaining the *status quo* was less threatening to the faculty and the easiest way to implement entrepreneurship into the curriculum. Regardless, by not making any changes, senior academics sent out a mixed message to the university: We are adopting a new teaching strategy but there will be no changes to the way we operate. Judging by the responses to the question on what organisational model respondents would choose for future initiatives, it is clear that decision makers had learned from that initial decision and would adopt a different organisational model for future initiatives (see below).

A more fundamental question that requires discussion is: What did academic leaders think their responsibilities were for implementing EXIST when they accepted the funding? According to the findings, 80% of the respondents stated that the reasons were external financing and the strategic opportunity to advance the position of their institutions. This is similar to the findings of Gjerding *et al.* (2006) in their study of four institutions where “gaining external funding is considered important and is actively pursued” (p. 12). Only 20% of the respondents stated that they wanted to foster connections with the regional corporate sector. It is not clear, however, if by accepting “money”, academic administrators also accepted the responsibility of introducing an entrepreneurial culture, one of the stated aims of the programme. Were most university leaders behaving opportunistically to a funding initiative without the requisite commitment? Did they not recognise the implications of not consulting widely? Did they not know how to change the culture of their university? It is also unclear whether those 20% of respondents who embraced EXIST’s entrepreneurship teaching requirement also embraced adopting an entrepreneurial culture that goes beyond the traditional culture of teaching and research and accomplishes Etzkowitz’s (2003) “third mission” of “economic and social development” (p. 110).

In hindsight, respondents should have been asked these two questions explicitly: What did you think you were accepting? How did you plan to introduce entrepreneurship into the culture of your institution? The impression I gained in the interviews was that respondents did not wish to change the culture of their institutions as required by EXIST. Clark (1998, 2004), Etzkowitz (2003, 2004) and Gjerding *et al.* (2006) found in their studies that support from the top as well as from the bottom, “the heartland” was essential to establish an entrepreneurial culture in universities. Future research is required to clarify the motivation and commitment of academic leaders to changing the culture of universities in response to external initiatives.

The professoriate: Why change?

In other countries, when governments wanted to change tertiary institutions, the policy instrument usually contained substantial incentives, meaningful sanctions or both to encourage institutions and individuals to comply (Curri, 2001). Universities are designed on consensus decision making and prefer the *status quo* (Weinstein, 1993). Traditionally, faculty members are particularly reluctant to change their teaching, especially if they feel pressured to do so by others. They will invoke their right to academic freedom (Morgan and Roberts, 2005) in defence of their resistance to the requested change. Academics are reluctant to give up control and may not agree with the new directions proposed: “I, for one, don’t think universities should respond quickly to society’s whims. That’s not our job” (Pitcher, 1995, p. 163).

Respondents in this study stressed that “Selection was totally voluntary based on one’s personal or academic interest”. At most, “the dean might approach a colleague because of his entrepreneurial background or competence in his field”. One respondent claimed that “people had to be begged to take on a[n EXIST] project in addition to their regular workload”. It is clear that respondents did not feel pressured either by their dean or president to change their curricula or pedagogy in response to EXIST. Also, there was no suggestion that professors who opposed including entrepreneurship in their field suffered any negative consequences. Respondents were asked if they had had negative reactions when lobbying their colleagues to participate. About half said they were told of lack of interest or fading interest, additional effort without benefits, and lack of interdisciplinary co-operation. Some felt strongly that entrepreneurship education was not essential either to the discipline or to the mission of the university: “Allow students first to complete their studies before they get involved in entrepreneurial activities”; “professors fear that by introducing unnecessary material [entrepreneurship], the theoretical knowledge of the discipline suffers. Entrepreneurship is not necessary”. It is therefore not surprising that the Fraunhofer Study, *Students and Entrepreneurship* (Fraunhofer-Institute S.u.I., 2002) and the Minister in 2006 (BMW, 2007) found a lack of entrepreneurship curriculum integration throughout universities. Given the degree to which academics value their independence from the university administration, non-interference by their colleagues and commitment to their discipline (Cohen, 2003; Moore, 2003), is it possible, then, for senior academic administrators to introduce changes to the teaching culture of their institution in the short term?

To answer this question, respondents were asked what support and incentives were provided to professors to incorporate entrepreneurship into their teaching. Although EXIST funding was available, only half of the respondents indicated that they were being supported by the university to develop and deliver new curricula in terms of either more research money

from EXIST, a reduced course load, additional teaching or administrative assistance. When asked whether respondents received special recognition or rewards for participating in EXIST, most were surprised by the question. Professional interest, self-motivation and goodwill toward the university and the students were strong motivators among respondents. This means that rewards that support their work (additional staff, more research money) will be noticed and appreciated but generally hold little meaning and confirms that faculty members are responsive to intrinsic motivators; i.e. they get their satisfaction from their work. In other words, the traditional academic currencies most valued by respondents were status, reputation, respect, appreciation and transformation of students (Liefner et al., 2004; Cohen, 2003).

Strategy, structure and management: the need for a holistic change approach

Over the last four decades, universities have become more complex and today are frequently larger than many private corporations. In Germany, university staff are public servants and are employed by the *Länder* (states). Unlike private organisations, two very different cultures exist within universities: academic and administrative. In North America, the biggest challenge facing universities in the last 20 years has been to foster a healthy organisational climate between two cultures that have different values, norms, goals and processes (Dearlove, 1998; Cohen, 2003; Glavin, 2003; Zolner, 2003). Holten and Phillips (1995) claimed that faculty, feeling thwarted academically or constricted by rules and regulations, had come to regard the administration as “the enemy”. Unionisation of faculty has made this virtually a structural necessity.

Based on the findings of this study, it appears that similar sentiments persist at German universities. There was a high degree of dissatisfaction with the implementation of entrepreneurial teaching among respondents which they attributed largely to an unresponsive administration. In their view, academics had little control over or influence on how the institution was managed. When asked what obstacles had to be overcome to implement EXIST, one respondent expressed a view held by many about university administration: “The structure and the processes at the university are very complex. The administration of universities falls under the jurisdiction of the states. The administrators are trained public servants and have tenure. Over the last 40 years many new policies and procedures have been added, but none have been removed.”

A number of respondents from all regions and levels commented that the traditional integrated university model was too slow when attempting to introduce entrepreneurship into teaching: “working across academic and technical departments often resulted in friction and little co-operation”, “decisions were delayed too long”, “many colleagues opposed the idea” and “was too slow for decision-making, especially for entrepreneurship projects where the

window of opportunity was narrow". Overall, respondents viewed bureaucratic and/or hierarchical management cultures as responsible for less than optimal results in integrating EXIST into the organisational processes of the university: "The administration [management] hindered the implementation – otherwise it would have been faster". Similar concerns were recognised by Clark (1998, 2004), Gordon (2003) and Gjerding *et al.* (2006) which led to their recommendations to minimise hierarchies and adopt enabling support systems that foster entrepreneurial initiatives.

Based on their experiences in implementing entrepreneurial teaching into the curriculum, respondents chose different organisational teaching models (a = integrated, b = satellite, c = combination of a + b) for future entrepreneurial initiatives. Although presidents/rectors had initially supported the integration of entrepreneurial teaching into the existing academic structure across faculties, they subsequently changed their minds and chose the combination model for future initiatives. Some of the reasons for this change were: "We need to maintain closer links with our regional partners and industry", "We need to ensure the sustainability of projects", and "We need to encourage and support women entrepreneurs". They concluded that the combination model would provide the essential connection with the university and at the same time allow for flexibility and timely decision-making; *e.g.* hire practitioners in the field to teach, develop projects in partnership with the business community. Entrepreneurship chairs who joined the university recently had recognised the desirability of the combination model (to act within the institutional structure as well as outside) from the outset and had no wish to change the organisational structure of entrepreneurial teaching for the future. In contrast, respondents who were committed to entrepreneurship but who had been in the university for many years changed their preference for the combination model to the satellite model for future initiatives, believing that the best way to introduce external initiatives was to remove them from the university structure and processes. As mentioned earlier, these findings are similar to those of Clark (1998, 2004) and Gjerding *et al.* (2006). Koch (2002/03) and others have also identified the importance of the "integration of internal and external university networks which promote entrepreneurship" (p. 646).

When comparing respondents' assessments of academic culture with choice of organisational models for future entrepreneurial teaching initiatives, respondents favoured the satellite model when they judged collegiality to be poor. However, if respondents judged their EXIST experience as good and the management culture as participatory, they were less likely to opt for the satellite model but chose to work within the existing academic structure (integrated model). Therefore, the model chosen for future initiatives such as EXIST reflected decision makers' views on whether they considered the institution's academic and management cultures shared the same values, norms and goals that would

ensure the effective implementation of initiatives/projects. Clark (2004) and Gjerding *et al.* (2006) have also acknowledged the importance of structure and processes as important criteria for transformational change in universities.

Taylor (2006) identified comparable issues when investigating the management of research initiatives and concluded, among other factors, that speed of response, flexibility, devolvement of responsibilities and effective management are critical for successfully implementing initiatives that involve external agencies and partners. Historically, German universities have close research links with industry and funding agencies and have developed well-functioning structures and processes to support shared research interests. These experiences may have influenced respondents in their re-evaluation of a more effective organisational model for entrepreneurial teaching at their institutions. Further research is needed to investigate whether the existing internal/external organisational research model (combination) could be adapted to foster entrepreneurial initiatives in entrepreneurial teaching.

Finally, the life span of a project plays an important role when choosing an organisational model. Does it make sense to integrate a project into the academic structure of the university if funding is guaranteed for only three years? Is it wiser to create a unit outside the regular structure but linked to the university through a department or office? If the initiative cannot be sustained by the university once the external funding has run out, it is easier to shut down the unit or can the unit be entrepreneurial and find other independent sources of funding. One negative aspect of the satellite model may be that the initiative will not be considered germane to the institution because it lies outside the traditional organisational structure of the university and its mission. Clark (2004, 2005) suggests that each university needs to develop its own solution to becoming entrepreneurial but it is critical that the academic values are the foundation on which the managerial values are based. The EXIST study suggests that the working relationship between academics and administrators influences strongly the organisational design of universities.

Conclusion

In 1998 the Federal Government of Germany introduced the EXIST programme which, among other goals, was designed to introduce entrepreneurship into teaching across faculties and to establish an entrepreneurial culture at a number of selected universities. The purpose of this research was to analyze the extent to which entrepreneurship teaching had been accepted, implemented and incorporated into the organisational structures, processes and cultures of the universities who were members of the EXIST programme by the fall of 2004. As happens with other studies, follow-up interviews would have helped clarify a number of issues but time and resources

were limited. The study was designed to gain an overall understanding of organisational change in higher education as a result of a public policy change by the German Federal Government. Specifically, I hoped to identify to what extent leadership, structure and processes, managing people, and academic and management cultures determine the outcome of new institutional strategies.

A few critical factors limited the success of integrating entrepreneurial teaching into the curriculum. One, when presidents/rectors championed the EXIST initiative they did not consult widely. This resulted in either disinterest or engendered antagonism on the part of faculty members and their refusal to become involved. Two, academic leaders did not recognise the need to adjust university structures and processes at the outset that would support and foster the new teaching strategy. Three, the traditional academic model (integration) was in many instances judged as barely acceptable and “too slow” in making decisions. Because entrepreneurial teaching requires working with practitioners and business, decisions need to be made in a timely manner. Eighty per cent rejected the integration model for future external initiatives in favour of a model that combines external and internal networks. Four, only those institutions considered to have a participatory (non-bureaucratic) management style and scored high on collegiality won approval of the integration model for future initiatives. In other words, congruence between academic and management culture, structures, processes, and management style greatly influences the success of new strategies. Five, faculty members involved in introducing entrepreneurship into teaching were offered EXIST funding to support curricular development and delivery. However, they were not rewarded in any way truly meaningful to academics. No apparent effort was made to promote their abilities or improve their status within the institution. By not singling out and rewarding these “stars”, there was no incentive for the disinterested faculty members to change their minds and benefit from the awards accruing to their colleagues. Changing the teaching culture of universities cannot be achieved by public mandate, by large sums of money alone or in the short term. It requires academic and administrative cultures that are based on a shared vision, institutional structures and processes that are aligned, and at least seven years of supported change efforts. Until this happens, entrepreneurial teaching will be left to the few committed believers.

For public policy makers, the lesson would be that the voluntary inclusion of entrepreneurship in the curriculum and establishment of an entrepreneurship culture in universities may be wishful thinking in the short term. It has taken American universities and colleges 30 years to establish entrepreneurship in their curricula despite a well-established entrepreneurship tradition in American culture. This, however, does not mean that these academic institutions have embraced in their everyday practices the values, attitudes and behaviours that constitute a culture of entrepreneurship *per se*. Public policy makers in Germany will need to

bear this in mind when evaluating EXIST III. Future policy initiatives should aim at encouraging the development of defined entrepreneurial values, attitudes and behaviour in German universities rather than simply broadly advocating establishing an entrepreneurial culture and expecting it to happen. The “internal forces” (academic/management culture, organisational structure and leadership) within universities may adopt change due to pressures from “external forces” (governments, technology, economy and markets). However, unless change is mandated, it must be remembered that the longevity of universities has been based on their ability to accommodate change that supports their vision, culture, norms and values.

The author:

Dr. Gudrun Curri
Associate Professor
Faculty of Management
Dalhousie University
6100 University Avenue
Halifax, NS, Canada B3H 3J5
E-mail: gudrun.curri@dal.ca

Acknowledgements

I would like to acknowledge the generous financial and administrative support from START Intra + Entrepreneurship Center, Universität Kassel, and Professor Dr. Klaus Nathusius for his contribution to the research questions.

References

- Andretsch, D.B. (2004), “Entrepreneurship and Economic Growth: The Role of Public Policy”, “3rd International GET UP Workshop on University Based Start-Ups”, Jena, 29-31 October, pp. 5-34.
- Beer, M., R.A. Eisenstat and B. Spector (2003), “Why Change Programmes Don’t Produce Change”, in T.D. Jick and M.A. Peirperl (eds.), *Managing Change: Cases and Concepts*, 2nd ed., McGrawHill Irwin, Boston, pp. 229-241.
- Birnbaum, R. (1992), *How Academic Leadership Works: Understanding Success and Failures in the College Presidency*, Jossey-Bass, San Francisco.
- BMBF (Bundesministerium für Bildung und Forschung) (2001), “EXIST: Existenzgründer aus Hochschulen, Stand und Perspektiven” (EXIST: Entrepreneurs after Higher Education, Review and Perspectives), *Referat Öffentlichkeitsarbeit* (Official Report), Bonn.
- BMBF (2002), “Studierende und Selbstständigkeit” (Students and Entrepreneurship), *Referat Öffentlichkeitsarbeit* (Official Report), Bonn.

- BMWi (Bundesministerium für Wirtschaft und Technologie) (2007), "EXIST im Interview" (Interview about EXIST), *Existenzgründungen aus der Wissenschaft* (EXIST), www.exist.de, 16 May.
- Clark, B.R. (1998), *Creating Entrepreneurial Universities: Organizational Pathways of Transformation*, International Association of Universities and Pergamon, Oxford.
- Clark, B.R. (2004), *Sustaining Change in Universities: Continuities in Case Studies and Concepts*, Society for Research into Higher Education and Open University Press, Maidenhead.
- Clark, B.R. (2005), "The Character of the Entrepreneurial University", *International Higher Education*, No. 38, Winter, pp. 2-3.
- Cohen, A.R. (2003), "Transformational Change at Babson College: Notes from the Firing Line", *Academy of Management: Learning and Education*, Vol. 2, No. 2, pp. 114-216.
- Collins, J.C. and J.I. Porras (1998), "Building Your Company's Vision", *Harvard Business Review on Change*, Harvard Business School Press, Boston, pp. 21-54.
- Curri, G. (2001), "Restructuring the Nova Scotia University System: Reactions from University Senior Administrators", *Canadian Society for Study in Higher Education, Professional File*, Vol. 20, No. 1, pp. 1-15.
- Curri, G. (2002), "Reality versus Perception: Restructuring Tertiary Education and Institutional Change – A Case Study", *Higher Education*, Vol. 44, pp. 133-151.
- Dearlove, J. (1998), "The Deadly Dull Issue of University Administration: Good Governance, Managerialism and Organising Academic Work", *Higher Education Policy*, Vol. 11, pp. 59-79.
- Etzkowitz, H. (2003), "Research Groups as 'Quasi-firms': The Invention of the Entrepreneurial University", *Research Policy*, Vol. 32, pp. 109-121.
- Etzkowitz, H. (2004), "The Evolution of the Entrepreneurial University", *International Journal of Technology and Globalisation*, Vol. 1, No. 1, pp. 64-77.
- Fraunhofer-Institute S.u.I. (2002), *Studierende und Selbstständigkeit: Ergebnisse der Exist-Studierendenbefragung* (Students and Entrepreneurship: Results from Student Questionnaires about EXIST), Fraunhofer-Institut für Systemtechnik und Innovationsforschung, Karlsruhe.
- Gaito, J. (2004), *Research Methods*, 6th ed., Nelson, Toronto.
- Gallos, J.V. (2002), "The Dean's Squeeze: The Myths and Realities of Academic Leadership in the Middle", *Academy of Management: Learning and Education*, Vol. 1, No. 2, pp. 174-184.
- Galloway, L. et al. (2005), "Enterprise Skills for the Economy", *Education and Training*, Vol. 47, No. 1, pp. 7-17.
- Gjerding, A.N. et al. (2006), "Twenty Practices of an Entrepreneurial University", *Higher Education Management and Policy*, Vol. 18, No. 3, OECD, Paris, pp. 1-28.
- Glavin, W.F. (2003), "Change at Babson", *Academy of Management: Learning and Education*, Vol. 2, No. 2, pp. 167-169.
- Gordon, G. (2003), "University Roles and Career Paths: Trends, Scenarios and Motivational Challenges", *Higher Education Management and Policy*, Vol. 15, No. 3, OECD, Paris, pp. 89-103.

- Grimm, H. and T. Huettche (2004), "Smart Policies for Entrepreneurial Regions. Future Strategies for the Promotion of Start-ups with Special Reference to an 'Entrepreneurship Center Thuringa' (Germany)", "3rd International GET UP Workshop on University Based Start-ups", Jena, 29 October, pp. 333-359.
- Holten, S.A. and G. Phillips (1995), *Can't Live with Them, Can't Live without Them: Faculty and Administrators in Conflict*, Jossey-Bass, San Francisco.
- Hytti, U. and C. O'Gorman (2004), "What is Enterprise Education? An Analysis of the Objectives and Methods of Enterprise Education Programmes in Four European Countries", *Education and Training*, Vol. 46, No. 1, pp. 11-23.
- Jick, T.D. (1979), "Mixing Qualitative and Quantitative Methods: Triangulation in Action", *Administrative Science Quarterly*, Vol. 24, No. 4, pp. 602-611.
- Jick, T.D. (1993), *Managing Change: Cases and Concepts*, Irwin McGraw-Hill, Boston.
- Jick, T.D. (2003), "Leading Change: The Personal Side", in T.D. Jick and M.A. Peiperl (eds.), *Managing Change, Cases and Concepts*, 2nd ed., Irwin McGraw-Hill, Boston.
- Kanter, R.M., B.A. Stein and T.D. Jick (1992), *Organizational Change: How Companies Experience It and Leaders Guide It*, The Free Press, New York.
- Kitagawa, F. (2005), "Constructing Advantage in the Knowledge Society. Roles of Universities Reconsidered: The Case of Japan", *Higher Education Management and Policy*, Vol. 17, No. 1, OECD, Paris, pp. 1-18.
- Koch, L. (2002/03), "Theory and Practice of Entrepreneurship Education: A German View", *International Journal of Entrepreneurship Education*, Vol. 1, No. 4, pp. 633-660.
- Kotter, J.P. (1998), "Leading Change", *Harvard Business Review on Change*, Harvard Business School.
- Lewin, K. (1951), *Field Theory in Social Science*, Harper and Row, New York.
- Liefner, I., L. Schaetzl and T. Schroeder (2004), "Reforms in German Higher Education: Implementing and Adapting Anglo-American Organizational and Management Structures at German Universities", *Higher Education Policy*, Vol. 17, pp. 23-38.
- Liesner, A. (2006), "Education or Service? Remarks on Teaching and Learning in the Entrepreneurial University", *Education Philosophy and Teaching*, Vol. 38, No. 4, pp. 483-495.
- Moore, T.E. (2003), "Transformational Change at Babson: Before the First Shot was Fired", *Academy of Management: Learning and Education*, Vol. 2, No. 2, pp. 170-172.
- Morgan, C.K. and D. Roberts (2005), "Herding Cats? Obtaining Staff Support for Curriculum Change and Implementation", October, www.csd.osds.uwa.edu.au/data/page/37666/ChristopherMorgan.pdf.
- Newby, H. (2003), "The Management of Change in Higher Education", *Higher Education Management and Policy*, Vol. 15, No. 1, OECD, Paris, pp. 9-22.
- Pitcher, P. (1995), *Artists, Craftsmen, and Technocrats*, Stoddart, Toronto.
- Pritchard, R. (2006), "Trends in the Restructuring of German Universities", *Comparative Education Review*, Vol. 50, No. 1, pp. 90-112.
- Shattock, M. (2005), "European Universities for Entrepreneurship: Their Role in the Europe of Knowledge – The Theoretical Context", *Higher Education Management and Policy*, Vol. 17, No. 3, OECD, Paris, pp. 13-25.

- Taylor, J. (2006), "Managing the Unmanageable: The Management of Research in Research-intensive Universities", *Higher Education Management and Policy*, Vol. 18, No. 2, OECD, Paris, pp. 1-25.
- Timmons, J.A. and F.W. Olin (1999), *New Venture Creation: Entrepreneurship for the 21st Century*, 5th ed., Irwin McGraw-Hill, Boston.
- Timmons, J.A. and S. Spinelli (2007), *New Venture Creation: Entrepreneurship for the 21st Century*, 7th ed., McGraw-Hill Irwin, Boston.
- Vesper, K. and W.B. Gartner (1997), "Measuring Progress in Entrepreneurship Education", *Business Venturing*, Vol. 12, No. 5, pp. 403-421.
- Weick, K.E. (2000), "Emergent Change as a Universal in Organizations", in M. Beer and N. Nohria (eds.), *Breaking the Code of Change*, Harvard Business School, Boston.
- Weinstein, L.A. (1993), *Moving a Battleship with Your Bare Hands: Governing a University System*, Magna Publications, Madison, Wisconsin.
- Wuest, J. and R. Werp (2004), "Zusammenarbeit von Hochschulen und ausseruniversitaeren Forschungseinrichtungen bei der Foerderung von Unternehmungsgruendungen" (Co-operation between Higher Education and Non-university Research Institutes Fostering Entrepreneurship), paper presented at the workshop "Existenzgründungen aus Hochschulen" (Entrepreneurship after Higher Education), Bonn, November.
- Zolner, J.P. (2003), "Transformational Change at Babson College: A View from the Outside", *Academy of Management*, Vol. 2, No. 2, pp. 177-180.

The Institutional Organisation of Knowledge Transfer and its Implications

by

Sjors van der Heide, Peter C. van der Sijde and Cees Terlouw
University of Twente, The Netherlands

How do European universities organise the knowledge transfer (KT) task? We consider the institutional organisation of knowledge transfer as encompassing 1) the knowledge transfer office structure, i.e. the way universities have embedded and organise their KT activities, 2) the focus towards the KT task, linked to the KT strategy, and 3) the KT activities themselves. Four exploratory cases of European universities show various motives to perform the KT task, different KT strategies and distinct interpretations of KT activities. Hence, the knowledge transfer office does not exist: all have hybrid structures. However, this structure depends on the university's KT strategy. The KT strategy in combination with the KT activities, and not the knowledge transfer office structure as such, is therefore advocated to be the topic of further research.

Introduction

Universities are considered to be a key factor in regional development (Tornatzky *et al.*, 2002; Etzkowitz and Klofsten, 2005). The increasing regional interaction (Etzkowitz and Leydesdorff, 2000) is expressed, for example, in the establishment of business and science parks to foster (knowledge-based) entrepreneurship or active patent portfolio management. Hence, next to the transfer of knowledge through academic education and research activities, a “third university task” arises. In this paper, this third “knowledge transfer” (KT) task describes the “transfer of know-how, expertise, skills and knowledge from one party to another leading to innovative, profitable or economic improvements for government, organisations and individuals in the private and public sectors and in the wider community” (ProTon, 2006) for mutual benefit (PhilipsKPA, 2006).

Knowledge transfer offices

The various activities comprising this academic third knowledge transfer task are generally expected to be executed and managed by a centralised university department: the knowledge transfer office (KTO). Publications and surveys (ProTon, 2007; AUTM, 2006; ASTP, 2006) on KTOs and KT activities tend to focus on practical issues regarding, for example, the number of patents filed (Saragossi and Van Pottelsberghe de la Potterie, 2003) or staff reward systems (Siegel *et al.*, 2003; Link and Siegel, 2005). Many reports conclude that there is no single model for knowledge transfer offices (*e.g.* Milken Institute, 2006; Lambert Review, 2003). A recent survey by Decter *et al.* (2007) highlighted significant differences in the United Kingdom and the United States between the motivations of universities to transfer technology, the consistency of university technology transfer policies and the accessibility of university technologies to business. Lockett *et al.* (2003) found that the more successful universities on spin-out activities have a clearer strategy towards these activities. University preferences regarding commercialisation paths and the quality of entrepreneurial support affect the degree to which spin-offs remain within their region (Golob, 2006). Although Golob shows that other factors contribute to this decision too, university behaviour within its regional context is of significant influence. However, what mechanisms comprise this university behaviour? The institutional organisation of knowledge transfer ought to be directly linked to the university strategy (*cf.* Bresser and Millonig,

2003). Therefore, this paper explores the way universities have embedded their KT activities in their organisation. It addresses the following: how do European universities organise the knowledge transfer task? The university strategy towards knowledge transfer is considered and is related to the focus regarding the KT activities carried out. Four exploratory cases of European universities provide empirical data.

The institutional organisation of knowledge transfer

The institutional organisation of knowledge transfer encompasses 1) the knowledge transfer office (KTO) structure, i.e. the way universities have embedded and organise their KT activities; 2) the focus towards the knowledge transfer task (or leading motive to perform the KT activities), which is directly linked to the university strategy towards knowledge transfer; 3) the KT activities themselves. Van der Heide *et al.* (2008) demonstrate that universities both differ in the *kind* of KT activities that are carried out as well as choose various approaches as to *how* these activities are carried out. Markman *et al.* (2005) present a study on KTOs in the United States, in which a set of three different organisational structures is identified: “traditional university structure”, “non-profit research foundation” and “for-profit venture extension”. Although Markman *et al.* distinguish three different structures, implicitly is assumed that KTOs are organised as a centralised body. We will put more emphasis on *what* KTOs do and what kind of KT activities are carried out; consequently, a distinct categorisation is preferred. In the ProTon Domain Synthesis Report (ProTon, 2003) different organisational forms of KTOs were inventoried. Among others, the dimensions “centralised – decentralised organised” and “inside – outside the university” were identified. These two dimensions provide a tool to analyse how the knowledge transfer activities are embedded in the organisation. Four organisational types can be distinguished:

1. Centralised organised inside the university – An institution has one central office where all the knowledge transfer activities are managed. The knowledge transfer office is a university department serving the university’s interests only. This resembles the “traditional university structure”: an integral department within a university’s administrative structure (Markman *et al.*, 2005).
2. Decentralised organised inside the university – Knowledge transfer activities are spread throughout the entire organisation.
3. Centralised organised outside the university – A university has its knowledge transfer activities managed by a separate (university-owned) body, cf. the “for-profit private extension” (Markman *et al.*, 2005). According to Markman *et al.*, these for-profit bodies provide the strongest support for new venture creation.

4. Decentralised organised outside the university – This is the case when the university's KT activities are carried out by different bodies outside the university.

Orientating desktop research indicates that the latter (“decentralised and outside”) is not common, which makes sense since it is quite complex to have KT activities managed by different external actors. The third KTO structure identified by Markman *et al.* (2005), a separate body outside of the university's administrative structure, can generally be considered as “centralised and inside”, except if the KTO is both organisationally and physically separated from the university. In that case the “non-profit research foundation” will be treated as “centralised and outside”. Hereupon, the following question is formulated: how are KTOs embedded in the university system, i.e. what is the KTO structure?

Van der Heide *et al.* (2008) have inventoried the KT activities carried out by universities, alongside education and research activities. The ten most mentioned activities of KTOs are summarised in Table 1. Van der Heide *et al.*

Table 1. Shortlist of the ten most mentioned activities of knowledge transfer offices

KT activity	Description
C Spin-off and enterprise creation	“University spin-off refers to the creation of a new company established in order to commercially exploit research knowledge created by university researchers” (Landry <i>et al.</i> , 2006; <i>cf.</i> ProTon, 2003); spin-off is the entrepreneurial route to commercialising knowledge of public research (OECD, 2000), based on both intellectual and non-intellectual property.
C Patents and licensing	Involve the exploitation of intellectual property. “Through patents an institute for higher education can protect its intellectual property and if a patent is granted it can be commercialised through sales of the patent or a license” (ProTon, 2003).
C University-industry networks	The dynamic “two-way interaction between ‘the actor’ university and ‘the actor’ industry” in collaborative networks (Groen and Van der Sijde, 2002); <i>cf.</i> the “partnership principle” (Chatterton and Goddard, 2000).
C Continuous professional development (CPD)	CPD comprises the post-initial education programmes aiming at improving the capability and realising the full potential of professionals at work.
P International co-operation	University co-operation with public and private organisations beyond national borders.
P European affairs	Management, acquisition and monitoring of European projects and European funding.
S Grants	Grants are provided by the government or other non-profit organisations to encourage (individual) development or growth in a particular area.
S National subsidies	National government programmes and policies intended to encourage certain types of research programmes and other specified university activities.
S Regional subsidies	Regional government programmes and policies intended to encourage certain types of research programmes and other specified university activities.
O Alumni affairs	Management of alumni contacts.

Source: Van der Heide *et al.* (2008).

make a distinction between core KT activities (C), project management activities (P), support activities (S) and other activities (O). The core activities involve the direct transfer of knowledge. These activities are facilitated by the project management and support activities. The other activities (in Table 1, only “alumni affairs”) are sometimes assigned to KTOs. Within the scope of this paper, this categorisation of KT activities serves as a useful tool to assess the KTOs. The leading motive to perform the KT activities, or the focus for these activities, goes along with the university strategy towards knowledge transfer. Therefore, we will subsequently address the university strategy towards knowledge transfer, the university’s leading motive or focus to perform KT activities and the KT activities themselves.

Exploratory cases of four European universities

Participants

Exploratory cases of four different European universities are carried out to provide a perspective on the institutional organisation of knowledge transfer. We have selected universities with different organisational structures. The selection is based on the university’s own assessment of the centralised/decentralised-inside/outside categorisation presented in the previous section. The first knowledge transfer office (KTO #1) is located in a technical university, but serves the interests of three regional universities jointly covering all research and education disciplines. Two universities for technical and social sciences have their KT activities located in a centralised office (KTO #2 and #3). The fourth university is a relatively small campus university for technical and social sciences, which has its KT activities distributed throughout its organisation (KTO #4). See Table 3 for some institutional characteristics.

Data gathering instruments

The cases consist of semi-structured interviews with KT stakeholders on different organisational levels. Interviews were conducted with department directors, directors of the incubation facilities, staff of the patent offices and business development managers. The interview protocol consists of questions regarding the university’s strategy towards knowledge transfer, the leading motive to perform KT activities, what KT activities are carried out and the approach towards the KT activities. Each interview lasted about one hour. The interviews were held in November and December 2006. Table 2 provides an overview of the number of interviews at each university. Additional analysis of the universities’ strategic plans and university policy on knowledge transfer took place afterwards.

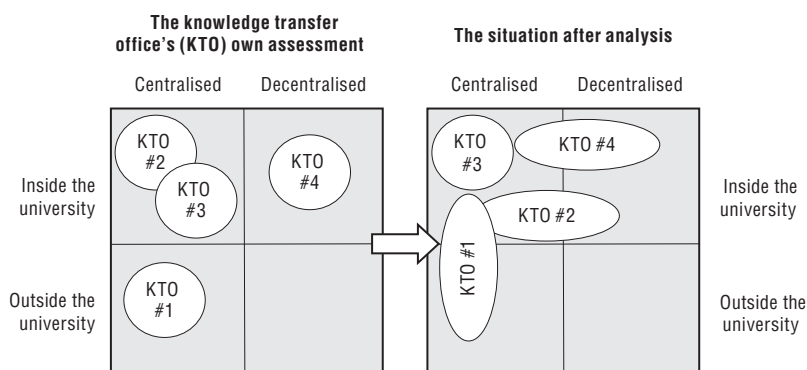
Table 2. **Number of interviews at each university**

Knowledge transfer office	Number of interviews
KTO #1	8
KTO #2	8
KTO #3	4
KTO #4	5

Exploratory case results

Knowledge transfer office structure

The division in different organisational types turned out to be useful for a first categorisation of the universities. However, in contrast to the prior categorisation, the KTOs do not confine themselves to one quadrant (see Figure 1). KTO #1 carries out a number of KT activities centrally, but collaborates with the individual universities on “patents and licensing” activities and an affiliated incubation facility (“spin-off and enterprise creation”). KTO #2 has a central department for all KT activities, but is now positioning business developers inside the research institutes in order to stimulate closer contact with the researchers. KTO #4 shows a similar, but opposite development. It recently established a central independent “supervisor” in charge of monitoring and facilitating KT activities throughout the organisation. Professional support on legal and financial issues and alumni affairs are managed centrally; all other activities are embedded in the research institutes and faculties. KTO #3 has a co-ordinative role for all activities comprising the KT task. Table 3 provides an overview of the universities’ characteristics.

Figure 1. **Organisation of KT activities within the university system**

Knowledge transfer strategy and leading motive – or focus – to perform KT activities

Each university has a different strategy towards knowledge transfer. KTO #1 is primarily focused on regional economic development. Its region used to be dominated by a few multinational companies playing a central role in the regional industrial activities. However, these companies largely disappeared and the universities leaped into the gap by taking over this catalyst role and by promoting “engagement with industry”. KTO #2’s primary role is to support university staff in doing research and attract and secure research funding for them. In addition, they are responsible for developing commercialisation opportunities through “patents and licensing” and “spin-off and enterprise creation” activities. The underlying motive is to contribute to regional economic development. The regional role of KTO #3 is illustrated through its mission to assist the university and organisations in creating and strengthening mutually beneficial relationships. The creation and maintenance of “university-industry networks” is therefore the most important KT activity. Besides that, students receive entrepreneurship and creativity training in the early stages of their studies and are involved in projects with (local) industry and new established (high-tech) ventures. KTO #4 primarily focuses on knowledge exploitation. Nevertheless, many projects have a regional aspect. This is encouraged through promoting entrepreneurship and an enterprising culture. In that perspective, it is no surprise that “spin-off and enterprise creation” is the most important KT activity and that less priority is given to “patents and licensing”. The mainly decentralised organisation is considered to be most appropriate to foster an entrepreneurial atmosphere among staff and students.

During the case analyses, one common issue arose: KTOs operate in a dynamic environment. Each KTO experienced many changes during the past five years, and more are yet to come. Tasks and responsibilities have varied over time, mainly due to changing university strategies towards knowledge transfer.

Knowledge transfer activities

The various strategies towards knowledge transfer can also be illustrated by the KT activities. For example, the three university members of the consortium (KTO #1) have their own “patents and licensing” office. The same holds for “spin-off and enterprise creation” activities: the consortium has direct links with an incubator facility; however, except for some central support, the consortium itself is not involved in these activities. This is reflected in the consortium’s strategy, which does not focus on knowledge exploitation, for example, but primarily aims at engagement with industry. Albeit alike at first sight, KTO #2 and #3 have a distinct approach of “spin-off and enterprise creation”. KTO #2 is slightly more focused on knowledge

exploitation itself, whereas KTO #3 puts more emphasis on its regional benefits. Note that the KTOs give different priority to the various KT activities (see Table 3). For example, KTO #2 is not involved in “continuous professional development” (CPD): it is accommodated in another department of the university, whereas “CPD” is an important activity for KTO #1. Moreover, it can be noticed that, although discussing the same activities, the approach towards the various KT activities can differ substantially among universities. For example, KTO #2 is not in charge of “alumni affairs”, but it carries out “alumni entrepreneurship”, a programme to link entrepreneurial alumni to the university and to consolidate and cultivate this relationship. KTO #4 offers a programme that is comparable to some extent but considers it as one of its “enterprise creation” activities.

Although the approach towards the activities can vary substantially, “spin-off and enterprise creation”, “patents and licensing” and “university-industry networks” are generally considered to be the most important activities (except for KTO #1). Activities such as “national subsidies” and “regional subsidies” are not considered as the most important KT activities. However, in most cases these activities provide the necessary financial resources to support and facilitate (regional) projects.

Conclusions and discussion

This exploratory study underpins the observation that there indeed is no single model for knowledge transfer offices. *The* knowledge transfer office as such does not exist. All have hybrid structures and operate in an ever-changing, dynamic environment, with both internal and external challenges to deal with. The four cases reveal substantial differences: universities have a distinct strategy and focus towards knowledge transfer. KTOs vary in the number of KT activities carried out, the perceived importance of these activities and the interpretation of the activities. Moreover, universities can label more or less similar KT activities differently.

Implications for practice

The cases show that the organisation of the KT task depends on the university’s KT strategy and the regional context. KTO #1 and #3 choose an “outside-in” approach: their strategies primarily focus on – and are influenced by – regional economic development. This is reflected in their central KTO: the central body improves the accessibility of the university for external parties. By contrast, KTO #2 and #4 choose an “inside-out” approach. The decentralised organisation facilitates close contact with the research groups and stimulates knowledge exploitation.

Table 3. **Characteristics of the four universities and the knowledge transfer offices (KTOs)**

University	#1	#2	#3	#4
University characteristics	The KTO is located in the technical university (engineering and architecture), but serves the interests of three regional universities jointly covering all research and education disciplines.	Campus university with its research and teaching activities organised in four faculties (arts and social sciences, education, engineering, and science) and a business school.	Campus university founded in the seventies. Its research and teaching activities are grouped in three clusters: engineering, science and medicine, and social sciences and humanities.	Small campus university, founded in the early 1960s. It offers education and research in areas ranging from public policy studies and applied physics to biomedical technology.
Number of scientific staff (in full-time equivalent [FTE], 2005)	n.a.	3 456	1 666	1 412
Number of students (in total, 2005)	111 000 (for the three universities)	15 546	13 638	7 673
Number of KT staff (in FTE, 2005)	12 (total) 5 (at the central office) 7 (at the individual universities)	16 (total)	42 (total) 30 (academics) 12 (secretarial)	11 (estimation)
Institutional organisation of KTO	Centralised, outside the university (consortium of three regional universities)	Centralised, inside the university	Centralised, inside the university	Decentralised, inside the university
KTO's year of establishment	1987	1984	1989	1979
"Driving force" behind knowledge transfer activities	University's mission	University's mission	University's mission	University's mission
University strategy towards knowledge transfer	Engagement with industry	Knowledge exchange	To ensure knowledge transfer to the region/ knowledge exploitation. To ensure an enterprising culture within knowledge intensive entrepreneurship.	Enterprising culture; promote entrepreneurship
KT focus (<i>i.e.</i> leading motive to perform KT activities)	Regional (economic) development	Regional (economic) development	Regional (economic) development, knowledge exploitation	Knowledge exploitation
KT activities carried out by the KTO (ranked in order of importance)	1. University-industry networks 2. European affairs 3. Continuous professional development (CPD) 4. Regional subsidies 5. National subsidies 6. International co-operation	1. Spin-off and enterprise creation 2. Patents and licensing 3. University-industry networks 4. Regional subsidies 5. National subsidies 6. European affairs 7. Alumni affairs* 8. International co-operation	1. University-industry networks 2. Spin-off and enterprise creation 3. Patents and licensing 4. Continuous professional development 5. Regional subsidies 6. National subsidies 7. European affairs 8. International co-operation	1. Spin-off and enterprise creation 2. University-industry networks 3. Patents and licensing 4. Continuous professional development 5. Regional subsidies 6. National subsidies 7. Alumni affairs 8. European affairs 9. International co-operation

Table 3. **Characteristics of the four universities and the knowledge transfer offices (KTOs) (cont.)**

University	#1	#2	#3	#4
Remarks	The consortium collaborates with the individual universities on “patents and licensing” activities and an incubation facility (spin-off and enterprise creation).	* Alumni affairs is a separate department that looks after all relationships with alumni, including raising funds and receiving gifts; the KT office primarily looks after alumni entrepreneurship. Another department is in charge of CPD.		Centralised: an independent “supervisor”, professional support on legal and financial issues and alumni affairs. All other activities are embedded in the research institutes and faculties.

The KTO structure depends to a lesser extent on the university characteristics (e.g. size, number of students); for example, one might expect that KTO #4, as a small university, would bundle its activities in a central office. However, when considering the strategy – encouraging entrepreneurship – the decentralised organisation indeed seems to be more appropriate.

Furthermore, each university carries out the KT activities as identified by Van der Heide *et al.* (2008), but the four core KT activities are not necessarily executed by the KTOs. Hence, the KT task should be considered as a collection of different KT processes, carried out by a variety of actors in a university.

Implications for further research

We suggest two main directions for further research into the institutional organisation of knowledge transfer. Knowledge transfer can be studied from an **operational** perspective. The operational processes (i.e. the various KT activities) in relation to the university strategy are suggested as units of analysis. This approach offers both a more sophisticated and richer assessment of “best practices” and comparisons, because it provides a context. For example, “spin-off and enterprise creation” can be instigated by a regional development policy (“outside-in”) as well as from a knowledge exploitation policy (“inside-out”). Activities seem the same, but are differently rooted in the organisation and will impact the region accordingly.

Knowledge transfer can also be considered from an **organisational** perspective. The university strategy towards knowledge transfer determines the way KT activities are organised. The university strategy itself, linked to regional contextual factors and the KT activities, should therefore be a subject of study. A broader study would allow the assessment of the fit between the university strategy towards knowledge transfer, the institutional organisation and the way KT activities are carried out. In this constellation the (research) question arises: what is the best way to organise KT activities to reach the

intended university objectives? In a separate office (institutional actor: centralised, decentralised or hybrid), or as functions (individual actor) spread out over a score of people?

The approach chosen by Markman *et al.* (2005) could be useful to repeat in Europe, with a difference. Their theoretical model encompasses common commercialisation strategies and various technology stages at which KTOs get involved in the commercialisation process. A new approach could be to extend the study into the roles that the individual and institutional actors in KT activities play. Obviously, it would be interesting to make a comparison between the European and North American situation, from both the organisational and operational perspective.

Limitations

We believe that the case analyses provide sufficient details to have sketched an impression of the institutional organisation of knowledge transfer. Nevertheless, some remarks have to be made. The exploratory case results are based on a limited number of interviews with persons from various organisational levels. Due to time restrictions, university board members were not interviewed. Additional analysis of strategic plans and university policy on knowledge transfer should largely compensate this lacuna. Furthermore, these four universities are merely indicative, not representative of European universities in general.

Acknowledgements

The authors wish to thank the participating universities and the interviewees for their kind and valuable co-operation.

The authors:

Sjors van der Heide MSc.
Faculty of Management and Governance
University of Twente
P.O. Box 217
7500 AE Enschede
The Netherlands
E-mail: s.vanderheide@utwente.nl

Dr. Peter C. van der Sijde
Faculty of Management and Governance
University of Twente
P.O. Box 217
7500 AE Enschede
The Netherlands
E-mail: p.c.vandersijde@utwente.nl

Dr. Ceas Terlouw
Faculty of Behavioural Sciences
University of Twente
P.O. Box 217
7500 AE Enschede
The Netherlands
E-mail: c.terlouw@utwente.nl

References

- ASTP (Association of European Science and Technology Transfer Professionals) (2006), *Final Report: The 2006 ASTP Survey*, ASTP, www.astp.net.
- AUTM (The Association of University Technology Managers) (2006), *AUTM US Licensing Survey, FY 2005 Survey Summary*, AUTM, www.autm.org.
- Bresser, R.K.F. and K. Millonig (2003), "Institutional Capital: Competitive Advantage in Light of the New Institutionalism in Organisation Theory", *Schmalenbach Business Review*, Vol. 55, pp. 220-241.
- Chatterton, P. and J. Goddard (2000), "The Response of Higher Education Institutions to Regional Needs", *European Journal of Education*, Vol. 35, No. 4, pp. 475-496.
- Decter, M., D. Bennett and M. Leseure (2007), "University to Business Technology Transfer – UK and USA Comparisons", *Technovation*, Vol. 27, pp. 145-155.
- Etzkowitz, H. and M. Klofsten (2005), "The Innovating Region: Toward a Theory of Knowledge-based Regional Development", *R&D Management*, Vol. 35, No. 3, pp. 243-255.
- Etzkowitz, H. and L. Leydesdorff (2000), "The Dynamics of Innovation: From National Systems and 'Mode 2' to a Triple Helix of University-Industry-Government Relations", *Research Policy*, Vol. 29, No. 2, pp. 109-123.
- Golob, E. (2006), "Capturing the Regional Economic Benefits of University Technology Transfer: A Case Study", *Journal of Technology Transfer*, Vol. 31, pp. 685-695.
- Groen, A. J. and P.C. van der Sijde (eds.) (2002), *University-Industry Interaction: Examples and Best Practice in the European Union*, Twente University Press, Enschede.
- Lambert Review (2003), *Lambert Review of Business-Industry Collaboration*, HM Treasury, London.
- Landry, R., N. Amaraa and I. Rherrad I. (2006), "Why Are Some University Researchers More Likely to Create Spin-offs than Others? Evidence from Canadian Universities", *Research Policy*, Vol. 35, No. 10, pp. 1599-1615.
- Link, A.N. and D.S. Siegel (2005), "Generating Science-based Growth: An Econometric Analysis of the Impact of Organisational Incentives on University-Industry Technology Transfer", *The European Journal of Finance*, Vol. 11, No. 3, pp. 169-181.
- Lockett, A., M. Wright and S. Franklin (2003), "Technology Transfer and Universities' Spin-Out Strategies", *Small Business Economics*, Vol. 20, pp. 185-200.
- Markman, G.D. et al. (2005), "Entrepreneurship and University-based Technology Transfer", *Journal of Business Venturing*, Vol. 20, pp. 241-263.

- Milken Institute (2006), *Mind to Market: A Global Analysis of University Biotechnology Transfer and Commercialization*, Santa Monica, California, www.milkeninstitute.org.
- OECD (2000), "Industry-Science Relations", *OECD Science, Technology and Industry Outlook 2000*, OECD, Paris, pp. 161-183.
- PhilipsKPA (2006), *Knowledge Transfer and Australian Universities and Publicly Funded Research Agencies*, Department of Education, Science and Training, Australia.
- ProTon (2003), *Workpackage 7 – Review of the Different Forms of Collaboration between Academia and Industry*, Domain synthesis report, Chapter 6, ProTon Europe, September.
- ProTon (2006), *Annual Report 2006*, Proton Europe, www.protoneurope.org.
- ProTon (2007), *The ProTon Europe 2005 Annual Survey Report*, Report Draft, April.
- Saragossi, S. and B. van Pottelsberghe de la Potterie (2003), "What Patent Data Reveal about Universities: The Case of Belgium", *Journal of Technology Transfer*, Vol. 28, pp. 47-51.
- Siegel, D.S., D. Waldman and A. Link (2003), "Assessing the Impact of Organisational Practices on the Relative Productivity of University Technology Transfer Offices: An Exploratory Study", *Research Policy*, Vol. 32, No. 1, pp. 27-48.
- Tornatzky, L.G., P.G. Waugaman and D.O. Gray (2002), *Innovation U.: New University Roles in a Knowledge Economy*, Southern Growth Policies Board and Southern Technology Council, North Carolina.
- Van der Heide, S., P.C. van der Sijde and C. Terlouw (2008), "Exploring 'Transnational' University Cooperation on Knowledge Transfer", *submitted*.

Quality Assessment of Undergraduate Education in China: A Policy Analysis

by

Shuiyun Liu and Maria João Rosa
University of London, United Kingdom, and
University of Aveiro and CIPES, Portugal

This paper analyses a higher education policy issued in China in 2002: the Quality Assessment of Undergraduate Education Policy. The policy was designed with four main objectives: improvement, compliance, information and accountability. However, it has not completely fulfilled its objectives, especially regarding improvement and accountability, and it has had some unexpected consequences. Reflections on the quality assessment policy show that both inevitable and contingent factors have led to low efficiency. The authors identify the main reasons for this and propose ways to improve the policy based on the principles of the incremental and rational models of policy making and reform.

Introduction

Quality has become a key word in the public debate about higher education in China over the last decade. On the basis of earlier informal evaluation regulations, the Ministry of Education (MOE) issued the Project of Quality Assessment of Undergraduate Education in 2002, and a new organisation, Higher Education Evaluation Centre (HEEC) of the Ministry of Education, was established to assess it. In this project, all higher education institutions (HEIs) were to be evaluated within a period of five years on a rolling basis. As of the end of 2007, 518 universities and colleges had been evaluated (HEEC, 2008). This quality assessment of undergraduate education policy focuses on the teaching quality rather than research or management quality; and on the institution rather than faculty, subject or individual levels.

After working for almost one full cycle, the quality assessment policy has received a great deal of criticism. Many scholars and administrators in higher education have called for a more effective quality assessment mechanism. Representatives of the National People's Congress (the highest state body and only legislative house in the *People's Republic of China*) also proposed reforms for the quality assessment system. In this context, it seems the Chinese government will need to find a feasible and effective way to improve this policy as soon as possible (MOE, 2006).

In this paper, we will refer to the theories of quality assessment in higher education to analyse the main problems with the policy in China and make suggestions to improve it. Following the policy cycle, we will examine the context and objectives of the policy formation, the approaches to implement the quality assessment policy, and the policy consequences and problems. Based on this, we will consider whether the quality assessment policy has met its objectives and explore the main reasons for its successes and failures. Finally, we will propose ways to improve the policy.

The main research approach used here is policy evaluation. It is “the effort to understand the effects of human behaviour and, in particular, to evaluate the effects of particular programs on those aspects of behaviour indicated as the objectives of this intervention” (Lester and Stewart, 2000, p.126). One kind of policy evaluation, *impact evaluation*, is adopted, which concerns the end results of particular programmes and tries to determine whether the policy objectives have been met in terms of outputs (Lester and Stewart, 2000). In this paper, we will try to determine whether the quality

assessment policy in China has produced the intended results by examining its objectives and consequences respectively. We will illustrate the policy objectives by reviewing related policy documents; and we will analyse the policy consequences by drawing from two recent studies of outcomes of the quality assessment, one made by the institution responsible for implementing the policy (HEEC) and the other by a research group from Beijing Normal University.

The context of policy formation

Main characteristics of the Chinese higher education system

The Chinese higher education system is dominated by public universities providing undergraduate education. A few years ago, private universities began to be established on a large scale. Nonetheless governmental regulations and the low prestige attached to private universities, due to inferior teaching quality and high tuition fees, have restricted their development. Almost all public universities attempt to imitate the top Chinese universities, such as Tsinghua University and Peking University, and to become research-oriented and comprehensive institutions (Mohrman, 2003). They tend to focus on high-level research outcomes and on the number of advanced professors rather than on teaching quality or other kinds of services to society. Therefore, if we look at prestige, Chinese higher education can be described as a pyramid. However, all HEIs seem to have the same goals, tasks and organisation forms.

According to Neave and Van Vught (1994), two types of state governance models can be identified to characterise the relationship between the government and HEIs. In the *state-control model*, the state is the overarching and highly powerful regulator of the system; while in the *state-supervision model*, the state sees itself as a supervisor, steering from a distance and using broad terms of regulation. In China, higher education was structured and operated under a rigid state-control model before the 1980s. Following the Soviet higher education system, the government controlled almost all the substantive and procedural matters of the universities: HEIs had no autonomy at all. Influenced by the market-driven economic reform at the beginning of the 1980s, the Central Committee of the Communist Party of China (CCCPC) acknowledged that over-centralisation and stringent rules might kill the initiatives and enthusiasm of local educational institutions. The CCCPC then began to transfer decision-making power from the central government to individual HEIs, as stipulated in the 1985 document *Decision on the Educational System Reform* (CCCPC, 1985). Successive policies in the 1990s caused large-scale and systemic structural reform in Chinese higher education. Consequently Chinese HEIs have begun to enjoy a kind of autonomy, and the governance model is shifting from rigid state control to a certain degree of

state supervision (Mok, 2002). Nonetheless, if referring to Clark's triangle (Clark, 1983), the state authority is still the dominating force over academic oligarchy and market in co-ordinating higher education.

The emergence of higher education quality assessment in China

In common with many other countries, there are five main contextual factors underlying the emergence of higher education quality assessment in China: the "quality gap" caused by the conflict between higher education systems' expansion and diminishing unit costs (Barnett, 1992); international communication and co-operation; the changing relationship between the state and HEIs; the requirement of information and accountability towards society; and the pressure of university rankings.

First of all, the expansion of enrolments, the decline of unit educational resources and the reform of the faculty evaluation system have contributed to the emergence of what Barnett (1992) describes as a quality gap. With the policy of expanding enrolments in universities initiated in 1998, the total number of undergraduate admissions in China multiplied three-fold from 1998 to 2004. As a result, although funds for higher education have increased significantly, they grew at a slower pace than the participation rate. Thus, both the unit cost per higher education student and the teacher-student ratios have fallen steadily (MOE, 1998-2005). Moreover, the newly instituted faculty assessment systems in Chinese universities adopted the international convention of "publish or perish" and used the number of papers published annually as the main indicator in evaluating academic work. With the pressure to conduct more research, professors then preferred to stay in laboratories or to supervise graduate students rather than to teach undergraduate courses (Zhang, 2002). All these factors contributed to a quality gap that was becoming broader and harder to close. Quality assessment emerged then as a way to bridge the gap or at least to diminish its size.

Secondly, in the context of internationalisation, the international flows of students and scholars are unprecedented in the history of China; and the co-operative programmes with foreign institutions and other forms of communication have also flourished (MOE, 2004). Thus, it is necessary to enhance the transparency and comparability of educational quality for international communication and co-operation. Quality assessment systems are regarded as ways to promote this transparency and comparability (Huisman and Van der Wende, 2004).

Thirdly, as indicated above, the relationship between the Chinese government and higher education institutions is changing from rigid state control to a kind of state supervision. The Chinese government shifts its role

from education controller to that of the architect of the educational system and its quality assessor. Quality assessment has thus appeared in exchange for autonomy, to monitor HEIs from a distance (Neave and Van Vught, 1994).

Fourthly, the requirement for information and accountability towards society is another factor contributing to the emergence of quality assessment in China. Since the mid 1990s, the cost sharing policy of charging tuition fees and the changing graduates' employment model (from a tightly government-controlled job-assignment system to students finding employment in the labour market by themselves) has been implemented in China. In this context, both prospective students and employers need more information about the educational quality provided by HEIs. Quality assessment is seen as a way to provide that information. In addition, with the boosting of enrolment, the percentage of higher education expenditure in relation to total educational expenditure has increased from about 18% to 28% (Pan, 2006). The inequality of education input between basic education and higher education evoked many complaints from primary and secondary schools (Liu, 2004). In this context, quality assessment is viewed as an instrument by which higher education can be made accountable to society for the public funds, parts of which are seen as being "grabbed" from basic education. Furthermore, negative reports by the mass media about HEIs and their students have become a reality in past years in China. These reports have been criticised and considered a "distortion of university students" (Liu, 2006). Inevitably, these negative reports contributed to the erosion of trust in higher education quality. A quality assessment system can thus be viewed as a substitute for trust, assuring society that its higher education system is of high quality (Trow, 1996).

An additional impetus to establish the quality assessment scheme with an official nature seems to come from the publication of university rankings, which are disseminated extensively by the mass media. The "unscientific" evaluation criteria and the methods used by university rankings are criticised by HEIs and researchers (Wang, 2003). Ministerial officials seem to realise that "we had rather do something (better) ourselves", as a response to the complaints from HEIs. Therefore, China's Ministry of Education has published annually the results of the quality assessment of undergraduate education in the mass media.

The objectives of policy formation

Policy objectives vary in the degree to which they are explicit/clear *versus* implicit/ambiguous (Gornitzka, 1999). The objectives of the quality assessment of undergraduate education policy in China can be stated in terms of this explicit/implicit dichotomy.

On the one hand, against the backdrop of policy formation, the main functions that the quality assessment of undergraduate education policy should undertake in China can be summarised as *improvement* to bridge the quality gap, *information* to promote the transparency and comparability of HEIs, *compliance* to ensure that institutions will behave as the government wants them to behave, and *accountability* for public funding and the standards achieved.

On the other hand, according to the *Project of Quality Assessment of Undergraduate Education*, the following functions for the quality assessment system are established:

On the basis of the *Higher Education Law of the People's Republic of China*, the quality assessment policy is initiated to promote educational reforms and improvement, and enhance educational administration. The quality assessment and educational improvement should be combined, whilst improvement should be stressed. In addition, the quality assessment is an instrument to intensify the state's macro-management and guidance and to encourage all departments of educational administration to support teaching in higher education institutions. At the same time, it can be used to direct universities to implement the educational guidance of the state, improve the teaching conditions, ameliorate the educational infrastructure, strengthen the teaching management, change some traditional teaching methods, and improve the educational quality. (MOE, 2002, p. 10)

Therefore, *improvement* and *compliance*, i.e. improving educational quality and intensifying the governance and direction of the state, are the two main explicit objectives in the quality assessment policy discourse, while the discourse also implicitly includes the functions of *information* and *accountability*.

The approaches to policy implementation

The *Project of Quality Assessment of Undergraduate Education* is implemented by the HEEC, a department of MOE. The evaluators are scholars of various disciplines with a high academic reputation and/or management experience. They are recommended by universities according to a quota decided by the MOE and are ultimately appointed by the MOE. HEEC trains the evaluators and organises expert teams for each assessment programme (MOE, 2002; HEEC, 2008).

The evaluation procedures are standardised and include self-assessments, site visits and follow-up reforms. First of all, each participating institution is required to prepare a self-assessment report, using a fixed format provided by HEEC, before the site visit of external evaluators. Self-assessment reports of the evaluated institutions are collected by the visiting committee, which is composed of 7 to 13 experts. On the basis of an institution's self-assessment report, the expert committee formulates specific evaluation schedules for its visit which lasts approximately one week. Their evaluation methods include a

tour of the campus, in-class inspection and interviews; and their evaluation criteria are set out by the MOE containing eight major indicators and 19 sub-indicators. The content of the self-assessment report, together with the information gathered during the on-site visit, allows the expert panel to produce a review report. This report usually consists of recommendations for the evaluated institution and a judgment on its overall teaching quality, based on a grade scale: excellent, good, qualified or unqualified. After the site visit and the production of the review report, the panel reports its assessment results to the MOE. HEIs must implement reforms in the light of the external examiners' recommendations (MOE, 2002; HEEC, 2008).

From 2003 to 2006, 304 HEIs had been evaluated. The numbers of excellent, good, qualified and unqualified institutions are respectively 193, 90, 21, and 0 (HEEC, 2008). This means that 93% of the HEIs assessed are excellent or good, and none were considered unqualified. While funding decisions are not public knowledge in China, the Minister of Education, Zhou Ji has said that the link between evaluation results and funding decisions should be established directly. It is recognised that the evaluation results not only impact universities' public funds but also have implications in universities' quota for student recruitment (which is centrally planned by the government) and the authorisation of masters and doctoral programmes, which is quite significant for institutions' reputation and development (Zhou, 2004).

The main consequences of policy implementation

This section refers to two studies on the policy impacts of quality assessment of undergraduate education (Li, 2006; Zhang and Zhu, 2007). Both studies focus on the institutional consequences of quality assessment and the main problems it has caused.

These studies mainly investigate the impacts of the policy on teaching management and the planning of universities' development, the input of teaching (funding, teachers and infrastructures), and the output of undergraduate education (the quality improvement of students and universities). According to the survey data, the quality assessment policy has significantly improved teaching management and university development planning, but teaching outcomes, such as student learning, have hardly been improved by the new policy (Li, 2006; Zhang and Zhu, 2007). In addition, with the publication of assessment results, students can make better-informed choices about their place of study and be less driven by the allure of traditional (and often out-dated) reputations alone. Also, employers can use the evaluation results as a factor in their decision to hire one graduate rather than another. Central and local governments have more reliable information when deciding on the incremental or decremental funding of universities (Whitman, 2004).

However, the policy has also brought some unintended consequences (Li, 2006; Zhang and Zhu, 2007). Firstly, the quality assessment is not cost-effective. Secondly, the right of universities to participate in the development of the assessment policy has been neglected. The external compulsory assessment is not consistent with the routine work of institutions and has become a bureaucratic burden for academics. In addition, the performance-based funds have resulted in a “compliance culture”. In particular, the use of false materials was rampant in the universities evaluated, which not only affects the fairness of the assessment, but also teaches a bad moral lesson to students. Last but not least, the use of uniform performance indicators has led to the homogenisation of HEIs (Li, 2006; Zhang and Zhu, 2007).

Policy evaluation

Policy objective versus consequences

The question of whether the quality assessment policy has met its objectives, both explicit and implicit, will be examined in this section. Reviewing the four policy objectives – improvement, information, accountability and compliance – it is evident that the purpose of quality improvement has been fulfilled only to a certain degree, mainly in teaching management and university development planning. With regard to *information*, the quality assessment policy seems to be effective for funding agencies and students/employers. However, the falsification that was detected in the process of quality assessment has weakened its authority as a source of serious information on the quality of undergraduate education. As for *accountability*, 93% of Chinese HEIs were evaluated as excellent/good, which is not convincing. The quality assessment suggests that the teaching level is highly satisfactory in China, and that the margin for improvement is small. However, international comparisons and reports in the mass media show the opposite picture. As a result, the quality assessment may become an instrument to conceal the decline of essential quality and to legitimate that decline. Because accountability depends on truth-telling, the rampant falsification makes accountability only a rhetorical issue. Finally, regarding *compliance*, indeed, it is difficult to measure to what extent it has been realised in practice.

Reflections on the quality assessment policy

The assessment objectives and methods are determinants of the quality assessment policy's consequences and efficiency (Brennan and Shah, 2000). In this section, we will firstly explore the rationality of the explicit policy objectives: *improvement* and *compliance*. Furthermore, we will examine the implementation of the quality assessment policy and reflect on its main shortcomings and how they can hinder fulfilling the policy objectives. We will

then explore the evaluation agency, evaluators, evaluation procedures, the measurement of quality, and the connection between evaluation results and funding, referring to the “general model” of quality assessment proposed by Van Vught and Westerheijden (1994) and the analysis of quality assessment approaches in Europe by Schwarz and Westerheijden (2004).

The objectives of the quality assessment policy

As with many other countries’ approaches, the Chinese quality assessment scheme claims to encourage *improvement*. The rapid expansion of higher education enrolments brought diversity of both students and teachers, whose academic levels are not as high as those in an elite education era. In principle, it is almost impossible to compare the standards of an elite higher education system with those of mass higher education. In particular, without an adequate increase of staffing and resources, a quality decline is inevitable. Thus, the quality gap between the expansion of the higher education system and the diminishing unit resources (Barnett, 1992) is highly difficult to reconcile and cannot be bridged only through quality assessment or quality assurance schemes.

However, this does not mean that the existing evaluation scheme has no effects on quality improvement. In China, the quality assessment policy has increased attention towards teaching. To some extent, it is a potent instrument to balance the distorted focus on research in universities caused by the reform of the faculty evaluation mechanism. It is also beneficial in improving teaching methods and in reforming teaching management. To some extent, the quality assessment scheme can enhance the efficiency of limited resources. Thus, it can be an initial impetus towards quality improvement. However, the concern about teaching quality also brings heavy workloads for staff. Teaching activities, like all other work carried out in HEIs, depend on the creative commitment of their staff. Obviously, added burdens and the feeling of being scrutinised can demotivate staff who are already involved in innovation and quality initiatives. For the moment it is still unclear whether there is a tendency towards continuous quality improvement in the long run as a result of this initial push.

In contrast to the situation in other countries, *compliance* is a purpose explicitly indicated in the policy documents of quality assessment in China. In the context of the changing relationship between the state and HEIs, the quality assessment is being used as an instrument to monitor the HEIs from a distance. However, it will inevitably erode the autonomy of HEIs, hindering their long-term development. With this policy objective, the appearance of some unintended policy consequences, such as compliance culture and window dressing, is inevitable.

The implementation of the quality assessment policy

According to the “general model” proposed by Van Vught and Westerheijden (1994), it is up to the government to initiate evaluation schemes, creating a national agency to co-ordinate the quality assessment system. This agency should, it is argued, have a legal status but be independent from both the government and the HEIs at least in the operational aspects (Schwarz and Westerheijden, 2004). In China, the MOE defines the quality assessment procedures and methods, and the HEEC, one of the MOE’s departments, implements the compulsory evaluations. Without the active participation of HEIs, their requirements have been disregarded. As a result, it is inevitable that the evaluation process becomes a highly bureaucratic burden on HEIs rather than a chance for learning and improvement. At the same time, due to the fact that the quality assessment system cannot be ignored, HEIs respond to it in a rather formalistic way, which leads to anxious rehearsals towards a forthcoming site visit, with whole days given to walking through the visit and every moment and conversation choreographed and planned for the fullest effect (Trow, 1996). Thus, the routine work of universities is disturbed, and the staff’s precious time is used on preparing for site visit rather than on creative work to actually improve the teaching quality of HEIs.

In the “general model”, the external evaluators need to be selected to represent specific expertise (academic, management, etc.) depending on the focus and purpose of the visit (Van Vught and Westerheijden, 1994). They mainly come from the academic world, but including a minority representative from other stakeholders is also a widespread practice (Schwarz and Westerheijden, 2004). In China, members of the expert pool are scholars of various disciplines with a high academic reputation and/or management experience. In terms of the teaching quality of undergraduate programmes, no specialist in teaching-learning, higher education or quality evaluation is a member of the evaluation teams. Consequently, the reliability of the evaluations is reduced, which is not beneficial to quality improvement and accountability towards society. Additionally, no evaluators come from outside the academic world, such as employer or alumni representatives, nor students participate. It is recognised that different interest groups have their own ideas as to what constitutes quality and how to measure it; the actual quality assessment arrangements in use will be the outcomes of interplays between the competing interest groups (De Weert, 1990; Barnett, 1992; Vroeyenstijn, 1995; Tam, 2001). Since other stakeholders have no voice in the process of teaching quality assessment in China, the assessment process risks becoming a game between government and HEIs (the government having the upper hand). Since the opinions of students, employers and other stakeholders on the assessment and improvement of teaching quality are not taken into account, the policy efficiency in improving quality is lessened. At the same time, accountability towards these stakeholders is also weakened.

As proposed by the “general model”, the evaluation procedures should be a combination of self-assessment and external peer review: the former is the basis for the latter, which is followed by a published report setting out the findings of the site visit, and the recommendations made to institutions (Van Vught and Westerheijden, 1994). In China, the quality assessment procedures include three phases: self-assessment, site visits and follow-up reforms, which follow the “general model” and effectively combine the self-assessment and external evaluation.

The measurement of quality should combine performance indicators with peer review. Performance indicators play a role in quality assessment, but can never be the final word or take the place of peer review, and *vice versa* (Vroeijenstijn, 1995). Quality measurement in China is a combination of performance indicators and peer review. However, peer review in the process of quality assessment is restricted by its heavy reliance on the indicators regulated by MOE. External experts have not been in active dialogue with the staff of the evaluated universities to help them reveal particular weaknesses and give them relevant suggestions for improvement. Consequently, the comparability of quality assessment results has been enhanced, but the improvement objective has been neglected. Furthermore, the evaluation criteria are uniform for all HEIs evaluated, which is a significant driver towards the homogenisation of HEIs.

The direct connection between evaluation results and funding allocation intensifies the “compliance culture” (Van Vught and Westerheijden, 1994). When the information flowing up the line powerfully affects the resources flowing down from the government, it is a rational choice for HEIs to report their strengths rather than their weaknesses, their successes rather than their failures – and even to hide their weaknesses and shortcomings, which in the end will hamper HEIs’ improvement. What is worse, in order to cater for the criteria of quality assessment, falsification of materials, such as student examination papers, graduate theses and teaching regulations, is occurring in evaluated institutions. The “creation” of false materials becomes a huge drain for staff (students have even been asked to help). The falsification not only weakens the transparency and validity of the quality evaluation system but also violates professional and scholarly norms and ethics, which may further erode society’s trust in higher education (Du *et al.*, 2006).

Even without falsification in the process of quality assessment, the direct links between funding and evaluation results push HEIs to comply with the requirements of quality assessment. As a result, the evaluation indicators used in the process become the guide for university development, destroying the creative work that lies at the heart of quality in higher education. In addition, we cannot ignore another possible consequence of this direct link: strengthening the better universities and at the same time weakening the bad ones (Vroeijenstijn, 1995).

Suggestions for policy improvement

In light of the analysis above, some suggestions will be put forth in this section, which might assist policy makers. These suggestions for the quality assessment policy mainly refer to the incremental and rational models of policy formation and reform. Policy change does not occur on sandy ground and has to cope with the resilience of former institutions and rules which have inevitable inertia (Musselin, 2005). According to the incremental model, it is necessary to emphasise the continuity of policy evolutions, rather than enact an absolutely new policy ignoring previous ones (Thomas, 2001). In addition, politics and quality are closely intertwined. It is argued that those in charge of the design and implementation of quality assessment schemes feel accountability pressures, and the need to do something sometimes outweighs reflection and sustainable development of existing quality assurance schemes (Westerheijden *et al.*, 2007). Obviously, as mentioned above, the quality assessment policy formation in China partly resulted from the accountability pressure. However, the suggestions proposed in this paper are based on the “rational model” of policy formation rather than on political preference, in order to achieve “maximum social gain”, i.e. the quality improvement of HEIs.

Every policy is implemented in a specific environment. The policy reforms suggested here take into account the context of the Chinese higher education system as well as some Chinese cultural characteristics. It is well-known that “emphasising human relations” and “keeping up appearances” are important Chinese cultural characteristics. Taking into account the significant force of human relations, it is necessary to increase the opportunities of making collective instead of individual decisions when implementing policy in order to avoid corruption. The desire to “keep up appearances” enhances the compliance function of quality assessment. The increase of compliance means that the focus of quality assessment can highly influence HEIs, dictating their main concerns and investment preference. That is to say, due to the Chinese cultural background, quality assessment may directly and significantly influence the development of HEIs.

Stressing the improvement objective

Outcomes of policies depend on their intentions: they are more likely to succeed if their intentions are focused and well-defined rather than implicit/ambiguous (Gornitzka, 1999). It would be an improvement to remove *compliance* as an explicit objective in the policy discourse in China. Decreasing the emphasis on the compliance function would allow the quality assessment to focus on the improvement objective.

Strengthening the position of the national quality evaluation agency

As argued above, the efficiency of the quality assessment scheme will be enhanced if the national quality evaluation agency, HEEC, is allowed more independence. Thus, it is essential to reassert the national agency's position in China. As the government is still the dominating force for co-ordinating higher education, the organisational location of the national evaluation cannot be too far from the MOE. According to the incremental model of policy evolution, we suggest that the regulation and specific evaluation criteria be set out by the MOE, as they are now, but implemented by a national agency independent from both the government and higher education institutions.

Increasing the participation of higher education institutions

The participation of HEIs is necessary in the process of quality assessment. To counteract bureaucratisation and “window dressing” in China, quality assurance systems need to be designed with a built-in facility for positive change. That is to say, an internal drive for dynamism in evaluation schemes is essential. This can be encouraged by consulting HEIs and taking their opinions and requirements into consideration during the process of policy design. In the long term, their active participation might make HEIs more willing to reveal their weakness and discuss them with the visiting external evaluators. Evaluators would then become their “critical friends” or “external consultants” instead of inspectors, giving them relevant suggestions for improvement.

Reorganising the expert committee

Modifying the composition of the expert committee would benefit quality assessment in China. First of all, if the external evaluation teams included members with pedagogic expertise and professional experience in quality evaluation, as well as representatives from other stakeholder groups (such as students and employers), the reliability of quality assessment could be improved and suggestions would be more helpful for HEIs. Furthermore, based on the significant force of human relations in Chinese society and the rampancy of corruption, it is important to try at all levels to obviate the involvement of experts connected with the institutions being evaluated, and to increase the opportunities to make collective instead of individual judgments. It is furthermore suggested to include one foreign expert on every expert committee, in order to reduce corruption and profit from other countries' experiences with more developed quality assessment systems.

Diversifying evaluation criteria

It is important that quality assessment schemes use diversified evaluation criteria instead of the standardised ones, which have contributed to the homogenisation of HEIs in China. In the context of the Chinese higher education system, described as “a thousand flowers blooming that are nevertheless all of the same species” (Mohrman, 2003), we suggest that the first cycle of the quality assessment be used to assign institutional status, i.e. to assist HEIs to re-identify their orientations focusing on research, teaching or a combination of both. At the same time, the evaluation indicators for HEIs with different specialisms, such as medicine, art and physical education, could be diversified (indeed, this reform has already been initiated for some specialised institutions in China). Then, in the second cycle, it will be feasible to design distinct evaluation criteria for institutions with different missions and orientations. Additionally, the use of diversified indicators for various specialised institutions might be extended to the different subjects in comprehensive universities.

Promoting an evaluation focus: the internal quality assurance scheme

Establishing a strong link between the external and internal quality assessment would significantly improve the quality assessment policy, making them mutually supportive. This could be achieved if the site visits by external evaluators focused on the internal quality assurance scheme. The design and operation of serious and tough internal reviews of quality would be monitored through external assessment. It is argued that in mature quality assessment systems, internal reviews and assessments are more valid and fruitful for quality improvement than those carried out by outside evaluators (Harvey and Newton, 2007). Currently, China is still in an initial phase of quality assessment. Systematically promoting internal reviews in HEIs and their units is essential. Since “the focus of quality assessment can strongly influence HEIs’ concerns and investment preference”, if the external evaluation emphasises the review of internal quality assurance schemes, it will certainly contribute to effectively establishing adequate internal quality assurance schemes in HEIs.

Changing the relationship between evaluation outcomes and resources allocation

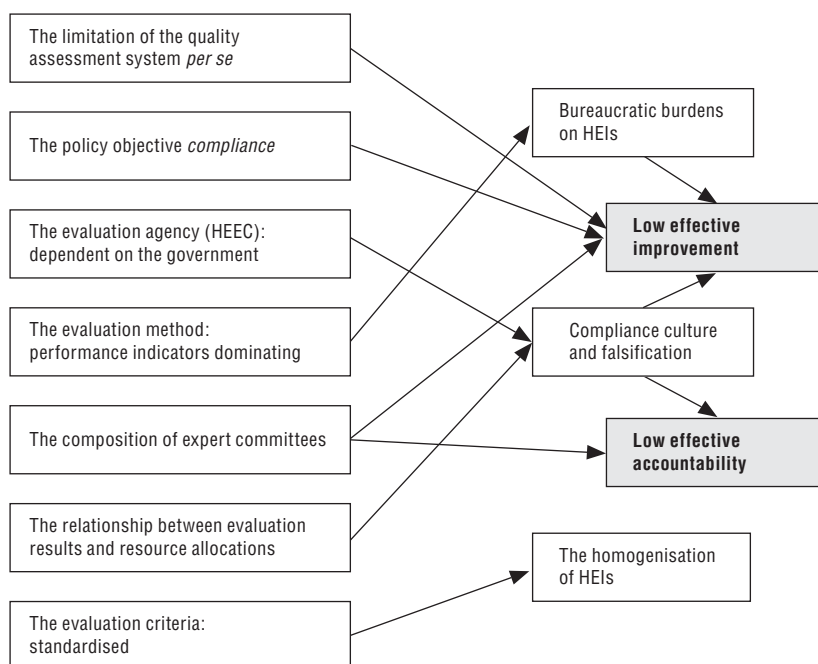
The direct relationship between evaluation outcomes and resource allocation has a negative effect on the development of HEIs in China, as analysed above. Vroeijenstijn (1995) regards performance-based funding as a ghost for quality assessment. However, the link between quality and funding is inevitable, and the question concerns the nature of the link. Referring to experiences in other countries, we suggest that the results inform funding,

but in a non-formulaic way (Schwarz and Westerheijden, 2004). It is admitted that the existence of this link will certainly encourage a “compliance culture”. From the perspective of feasibility, we can only try to decrease this “compliance”, but not completely eliminate it.

Conclusions

Based on the policy analysis in this paper, the quality assessment of undergraduate education policy in China has not fully realised its purposes, in particular the *improvement* and *accountability* ones. Probing into the main factors which result in the low efficiency of the quality assessment policy, it is possible to detect both inevitable and contingent factors. On the one hand, the quality evaluation system has its own limitations *per se* as a means of meeting the *improvement* objective. On the other hand, the shortcomings of the policy design, including its explicitly indicated policy objectives and the approaches to policy implementation, also weaken the *improvement* and *accountability* functions of the quality assessment system. Figure 1 summarises the analysis of the main factors leading to the low efficiency of the quality assessment policy.

Figure 1. **Main factors leading to the low efficiency of the quality assessment of undergraduate education policy**



Thus, the disappointing consequences of the quality assessment *vis-à-vis* its initial purposes cannot be attributed solely to the design and implementation of the assessment policy, although some improvement could be made, as we have put forward. We cannot expect to use the quality assessment system to solve all of the problems in higher education. Obviously more investment in higher education is required; simultaneously, in the context of the massification of higher education, the meaning of quality should be diversified for different institutions. It is unreasonable to use the standards of elite education to measure the quality of mass education. In addition, despite the different backgrounds, Chinese quality assessment policy encounters problems similar to its Western counterparts. The study of other countries' experiences in higher education evaluation would be valuable for the future of China's quality assessment policy.

Acknowledgement

We would like to thank Dr. Paul Temple, Institute of Education, University of London. This paper has benefited from his excellent suggestions.

The authors:

Shuiyun Liu
Department of Lifelong and Comparative Education
Institute of Education
University of London
20 Bedford Way
London, WC1H 0AL
United Kingdom
E-mail: sliu@ioe.ac.uk

Dr. Maria João Rosa
Department of Economics, Management and Industrial Engineering
University of Aveiro
Campus de Santiago
3810-193 Aveiro
Portugal
Centre for Research in Higher Education Policies (CIPES)
Rua 1^o de Dezembro, n^o 399
4450 Matosinhos
Portugal
E-mail: m.joao@ua.pt

References

- Barnett, R. (1992), *Improving Higher Education: Total Quality Care*, SRHE and Open University Press, Buckingham.
- Brennan, J. and T. Shah (2000), *Managing Quality in Higher Education: An International Perspective on Institutional Assessment and Change*, SRHE and Open University Press, Buckingham.
- CCCPC (Central Committee of the Communist Party of China) (1985), *The Decision on the Reform of Educational System*, People's Press, Beijing (in Chinese).
- Clark, B.R. (1983), *The Higher Education System: Academic Organization in Cross-national Perspective*, University of California Press, Berkeley.
- De Weert, E. (1990), "A Macro-analysis of Quality Assessment in Higher Education", *Higher Education*, Vol. 19, No. 1, pp. 57-72.
- Du, R. et al. (2006), "The Pluralism of Higher Education Quality and the Reform of the Assessment System: Review of the Annual Conference of the Association of Higher Education Evaluation in 2006", *Chinese Higher Education Evaluation*, No. 4, pp. 23-27 (in Chinese).
- Gornitzka, Å. (1999), "Governmental Policies and Organizational Change in Higher Education", *Higher Education*, Vol. 38, No. 1, pp. 5-31.
- Harvey, L. and J. Newton (2007), "Transforming Quality Evaluation: Moving on", in D.F. Westerheijden, B. Stensaker and M.J. Rosa (eds.), *Quality Assurance in Higher Education: Trends in Regulation, Translation and Transformation*, Springer, Dordrecht.
- HEEC (Higher Education Evaluation Center) (2008), China's Ministry of Education website, www.pgzx.edu.cn/index.jsp, accessed 15 January 2008.
- Huisman, J. and M. van der Wende (eds.) (2004), *On Cooperation and Competition. National and European Policies for the Internationalisation of Higher Education*, ACA Papers on International Cooperation, Lemmens, Bonn.
- Lester P.J. and J. Stewart (2000), *Public Policy: An Evolutionary Approach*, 2nd edition, Wadsworth, Belmont.
- Li, B. (2006), "The Review of Investigation in 177 Higher Education Institutions Evaluated from 2003 to 2005", www.pgzx.edu.cn/upload/files/yuanxiaopinggu/LiYB1.pdf (in Chinese).
- Liu, L. (2004), "The Disparity of Educational Expenditure per Student", *Information and Research*, 15 January (in Chinese).
- Liu, S. (2006), "Please Stop Pelting Bad Eggs at University Students", *Nanjing Morning Post*, 19 December (in Chinese).
- MOE (Ministry of Education) (1998-2005), *Chinese Education Yearbook*, People's Education Press, Beijing (in Chinese).
- MOE (2002), *Project of Quality Assessment of Undergraduate Education*, Ministry of Education, Beijing (in Chinese).
- MOE (2004), "International Students in China", www.moe.edu.cn/english/international_3.htm (in Chinese).
- MOE (2006), *Materials for the 3rd Press Conference of the Ministry of Education in 2006*, <http://202.205.177.12/edoas/website18/info18486.htm> (in Chinese).

- Mohrman, K. (2003), *Higher Education Reform in Mainland Chinese Universities: An American's Perspective*, www.sais-jhu.edu/Nanjing/downloads/Higher_Ed_in_China.pdf.
- Mok, K.H. (2002), "Policy of Decentralization and Changing Governance of Higher Education in Post-Maoist China", *Public Administration and Development*, Vol. 22, No. 3, pp. 261-273.
- Musselin, C. (2005), "Change or Continuity in Higher Education Governance: Lessons Drawn from Twenty Years of National Reforms in European Countries", in I. Bleiklie and M. Henkel (eds.), *Governing Knowledge: A Study of Continuity and Change in Higher Education – A Festschrift in Honour of Maurice Kogan*, Springer, Dordrecht.
- Neave, G. and F.A. van Vught (eds.) (1994), *Government and Higher Education in Developing Nations: A Conceptual Framework*, Pergamon Press, Oxford.
- Pan, M. (2006), "The Quality Strategies in Chinese Higher Education", *Journal of National Academy of Education Administration*, No. 2, pp. 3-7 (in Chinese).
- Schwarz, S. and D.F. Westerheijden (2004), "Accreditation in the Framework of Evaluation Activities. Synopsis of the Current Situation and Dynamics in Europe", in S. Schwarz and D.F. Westerheijden (eds.), *Accreditation in the Framework of Evaluation Activities. Current Situation and Dynamics in Europe*, Kluwer Academic Publishers, Dordrecht.
- Tam, M. (2001), "Measuring Quality and Performance in Higher Education", *Quality in Higher Education*, Vol. 7, No. 1, pp. 47-54.
- Thomas, R.D. (2001), *Understanding Public Policy*, 10th edition, Prentice Hall Publishers, New Jersey.
- Trow, M. (1996), "Trust, Markets and Accountability in Higher Education: A Comparative Perspective", *Higher Education Policy*, Vol. 9, No. 4, pp. 309-324.
- Van Vught, F.A. and D.F. Westerheijden (1994), "Towards a General Model of Quality Assessment in Higher Education", *Higher Education*, Vol. 28, No. 3, pp. 355-371.
- Vroeijenstijn, A.I. (1995), "Improvement and Accountability: Navigating between Scylla and Charybdis", *Higher Education Policy*, Vol. 30, Jessica Kingsley, London.
- Wang, C. (2003), "The Scientificity and Preciousness of University Rankings", *Journal of Ningbo University*, No. 5, pp. 4-9 (in Chinese).
- Westerheijden, D.F., B. Stensaker and M.J. Rosa (2007), "Is There a Logic in the Development of Quality Assurance Schemes? From Comparative History to Theory", paper presented at the INQAAHE Conference, Toronto, Canada, 2-5 April.
- Whitman, I. (2004), "OECD Review of Financing and Quality Assurance Reforms in Higher Education in the People's Republic of China", OECD, Paris, www.oecd.org/dataoecd/31/3/32570858.pdf.
- Zhang, J. (2002), "The Balance between Research and Teaching in College Teacher Assessment", *Journal of Architectural Education in Institutions of Higher Learning*, No. 4, pp. 83-84 (in Chinese).
- Zhang, J. and S. Zhu (2007), "Investigation on Higher Education Quality Assessment in China", *Science Times*, 2 January (in Chinese).
- Zhou, J. (2004), "Promoting Quality Assessment and Improving Teaching Quality in Chinese Higher Education Institutions", address to the foundation of the Higher Education Evaluation Center, Beijing, China, 26 October (in Chinese).

The Negotiation Process toward the New Salary System in the Finnish University Sector

by

Jouni Kekäle

University of Joensuu, Finland

In 2001 the Finnish government decided that the state sector should develop a new salary system that would take more fully into account the actual outcomes and demands of particular posts. Subsequently, in June 2006, an agreement on a new salary system for the Finnish university sector was reached between the negotiating parties, the employers and the trade unions. The new salary system is based on assessments of 1) the overall demands of a post, and 2) the personal performance of the individual employee. Until 2007 the author of this article acted as one of the employers' key negotiators in the bargaining process led by the Ministry of Education. This paper describes this major salary reform and the negotiation process connected with it. It sheds light on the central process of collective bargaining, which is often misunderstood by teachers and researchers in the broad field of higher education.

Introduction

In 2001 the Finnish government decided that the whole state sector should start using a new salary system that would take better account of the actual job demands and employees' personal performance. According to the government decision on the outlines of its personnel policy (Government of Finland, 2001), the public sector was required to develop new salary models to reward performance. The government gave only pragmatic grounds for the reform. The intention was, among other things, to narrow the gap in salary development and salary levels between the public and the private sector in the face of increasing competition for labour caused by diminishing age groups and the retirement of the large post-war generation.

The reform was also based on other pressures in labour markets. Pressures to increase efficiency and improve performance were global; Finland was no exception. There was a need to foster flexibility in pay structures; yet at the same time there was also a need to maintain a clear framework for the salary assessments. Salaries and insufficient feedback systems had long been the greatest cause of complaint in personnel barometers and surveys in the government sector, including the universities. In addition, the aim was to encourage staff to develop their personal competences and to improve management and leadership.

It should be noted that the emphasis of the overall steering policy in the government sector has developed out of an originally hierarchical and bureaucratic model toward one that is more dynamic, where competitiveness, networking, quality management and a new salary system play a central role (Petrov, 2006).

The universities represent by far the largest part of the government sector. Around 31 000 employees work in the Finnish universities, while the whole state sector employs some 124 000 wage- and salary-earners. At present, there are 20 universities in Finland: ten multi-faculty universities, six specialised universities and four art academies (see for example Ministry of Education, 2006).

Salaries at universities have traditionally been paid on the basis of 1) a basic salary connected with the given post or task; 2) the number of years spent in service; and, in some cases, 3) extra compensations for excellent performance or additional tasks. The universities themselves decide on the salaries of their employees, although the minimum basic salary connected

with a particular post plus the minimum seniority increments have been defined in the collective bargaining agreements between the Ministry of Education and the major trade unions representing the employees. In a similar manner, all comprehensive collective agreements define the minimum level and a framework within which the employer can make decisions on the salaries of its employees. In the new system, salaries are made up of one component based on job-grading and also one component based on the employee's performance in his or her designated and agreed tasks.

It was decided that the implementation of the new pay system should reach its target of 100% in the state sector by the end of 2006. From 2005 onwards, agreements were generally signed on the basis that they would lead in average to 7.25% increase in salaries in four years, one third of which was new funding from the government (Mattila, 2005).

In 2003 the Ministry of Education set up a group to negotiate the contract of the new salary system in the university sector. The negotiation group consisted of four employer representatives from the universities and three employee representatives from the main trade unions. The chairperson of the negotiation group was Juhani Dammert, a Counsellor of Education from the Ministry of Education. Until the end of 2006 the present author acted as the deputy chairperson of the group and also as one of the employers' key negotiators in the collective bargaining process.

Collective bargaining parties and the regulation of the Finnish labour market

Melin (2006) noted that the (regulation of) the Finnish labour market has had the following distinct characteristics: comprehensive and binding collective agreements that have been conducted centrally (or were so until 2007); a high unionisation rate (around 70-80% of the labour force); powerful trade unions; a strong government commitment to tripartite and central agreements; centralised practices in the labour market combined with a local interest representation by local representatives of the unions; and a high rate of employment among women.

There are three central organisations of trade unions, or trade union confederations, in Finland: the Central Organisation of Finnish Trade Unions (SAK), basically representing manual workers; the Finnish Confederation of Salaried Employees (STTK), representing professional employees; and the Confederation of Unions for Professional and Managerial Staff in Finland (AKAVA), typically representing academic professionals who have academic degrees or work as professors, lecturers, research assistants, researchers, untenured teachers and academic experts. These trade union confederations represent Finnish employees broadly: during 2006 AKAVA, for example, was

made up of 31 affiliates, with a total of 461 000 members from the various branches of working life. The SAK protected the interests of over 1 million wage-earners, while the STTK consisted of 20 affiliated trade unions and represented approximately 650 000 professional employees in Finland. Currently, the population of Finland is just over 5 million. AKAVA estimates that the unionisation rate amongst its potential clientele is 70% (for additional information, see www.akava.fi, www.sttk.fi and www.sak.fi). The employers' associations include the Confederation of Finnish Industries EK, the Commission for Local Authority Employers, the Office for the Government as Employer and the Church Employers' Commission.

The central confederations of employees and employers conduct negotiations on national incomes policy agreements, i.e. comprehensive income policy settlements (it appears that from 2007 onwards centrally negotiated comprehensive income policy settlements have been abandoned in favour of locally negotiated agreements). The government has been involved in these agreements as a result of its decisions on taxation and social policy. The issues of unemployment benefits, pensions, financial support for adult education and individual work-time account schemes tend to form a part of these tripartite income policy negotiations. The legally binding collective agreements on pay and other conditions of work are concluded by representative employer and employee unions. In the government sector, the parties to the central level collective agreements have been the Office for the Government as Employer and three negotiation organisations: the Trade Union for the Public and Welfare Sectors (JHL), AKAVA's Public Sector Negotiating Commission (JUKO), and Pardia, the Federation of Salaried Employees (see below).

The previous collective bargaining involving agreements in the university sector were led by the Ministry of Education, and this has also been the case with the negotiations on the new salary system. The Ministry has negotiated with the negotiation organisations – or key affiliates – of the trade union confederations: with the JHL, representing the SAK, with the Personnel Association of the Universities (YHL)/Pardia, representing the STTK, and with JUKO, the negotiating organisation of AKAVA. The Ministry of Education established a negotiation group consisting of four representatives of the university employers (until 2007 these included the present author; Esa Luomala, Director of Administration, Helsinki University of Technology; Arto Oikkonen, Director of Administration, Lappeenranta University of Technology; and Kira Ukkonen, Director of Human Resources, University of Helsinki). In addition, there were three negotiators from the main trade unions and negotiating organisations (Kaarina Saikkonen, and later Markku Rehmonen, from the JHL; Päivikki Kumpulainen, and later Kerttu Pellinen, from the YHL; and Arja Vehmas, from JUKO) who protect their members' interests and represent employees at universities. Naturally, many others also contributed

to the negotiations: central leaders on the employers' side, such as rectors and, in particular, directors of administration, and also key trade union leaders. The trade unions are politically unaffiliated and independent of any political parties. In essence, the negotiations were conducted between independent and democratic parties, and the process could not be directly guided or dictated by any single group amongst the participants.

The personnel department of the Ministry of Finance, officially called the Office for the Government as Employer (VTML), offered support in the process. The organisation was led by Teuvo Metsäpelto, Department Head, Labour Market Leader of the government. He, and especially Seija Petrow, the Director of Collective Agreements, and Counsellor Tuomo Vainio personally contributed to the negotiations at many stages in the process. The Office for the Government as Employer is responsible for planning the personnel policy of the state administration; it negotiates with the central trade unions and also, when necessary, with affiliates. Together, the negotiating parties have, for example, signed general Incomes Policy Agreements for the labour market, as well as central-level collective agreements for the state sector. Many of the key principles concerning the new salary system had already been agreed on by the parties, including the deadline by which the agreement has to be reached by the Ministry of Education and the labour representatives, some of the key principles, and some of the basic texts. The development of the assessment system was, however, left to the Ministry of Education. Legislation provides the Office for the Government as Employer with the right to inspect and check – and even abandon – the agreements conducted by local negotiating authorities, in this case the Ministry of Education.

Phases in the preliminary development work and negotiation process

The negotiations were concluded in several phases, and they have been affected by simultaneous processes that have interacted to at least some extent. We can distinguish the following central phases, processes or arenas of action affecting the negotiations:

1. support and collective agreements conducted under the leadership of the Office for the Government as Employer;
2. preliminary development work of the grading and assessment system;
3. initial negotiation process led by the Ministry of Education;
4. public discussion of the reform;
5. final negotiations.

Although these can be seen as different processes, they are interconnected in many ways. The first started before the others and then continued later

alongside them. In other words, the Office for the Government as Employer and the labour market confederations have followed the negotiating process closely and supported it throughout. Phases 2-5 occurred in chronological order. For the sake of clarity, however, I shall discuss the main aspects of these phases in separate sections.

Central agreements and support for the process

The reform was launched when the Office for the Government as Employer published its thinking on its guidelines for salary and pay policy in the state sector in 1992 (some 14 years before the actual conclusion of the process). The Office for the Government as Employer maintained that there was a need to renew the salary system in the public sector. The guidelines suggested that salaries should be better connected to the demands and outcomes of work effort; related to and in better balance with other sectors of the labour market; flexible so that changes in work could be taken into account; and less tightly linked with the years spent in government service or with formal training – or with other factors not directly related to performance (VTML, 1992).

In 1993 the main principles for the renewal of the salary system were also incorporated into the central-level collective agreement on behalf of the state administration. The trade unions reacted, however, by setting their own targets and aims for concrete negotiations. In the course of the following years, the central negotiating parties agreed on the general principles on the basis of which the salary system was to be renewed in the various sectors of government organisations. Local negotiating authorities were then allowed to find a suitable consensus and procedure according to the general guidelines. The main agreements were published in 1997 and 1999, and in their joint statement of 13 June 2001 the central negotiating parties committed themselves to promoting the reform. In the same year the Finnish government decided that the state sector should renew its salary system, and the central political decision makers, including the Finnish Parliament and the president, agreed to support and finance the reform.

The 1990s and the opening years of the new millennium displayed quite painstaking, steady progress towards a comprehensive new salary system designed for the state sector. During the early 1990s Finland was going through a severe recession. Therefore, the government provided additional funding (0.5 % of the total salaries) for the new salary system for the first time in 1995 (Mattila, 2005). By the autumn of 2004 still less than 60% of all personnel came within the sphere of the new system.

Finally, on 14 December 2004, a collective bargaining agreement was signed, laying down a fixed schedule for completing the reform in all state sectors and organisations. The deadline for the universities was 30 November 2005. Thereafter, if an agreement had not been signed, there could be no scaling-up

of wages (apart from those agreed on in the general incomes policy agreement) until the new salary system had been settled and put into effect (Virka- ja työehtosopimus, 2004).

Preliminary development work on the grading and assessment system

In 1995 four pilot universities started to develop the actual new salary system that would be used later throughout the university sector. The universities initially involved were the Technical University of Lappeenranta, the University of Kuopio, the University of Joensuu, and the University of Tampere. The work was carried out in co-operation between the employers (universities) and local representatives of the trade unions; it was supervised by the Ministry of Education, which also maintained negotiation contacts with the unions.

The development of grading and assessment systems was a central part of the work done at the pilot universities. Commercial systems were under consideration, but the pilot organisations realised early on that a distinct grading system for university tasks needed to be developed. During the following years, a form for job-grading was developed, improved and tested in three phases. This was used for such things as analysing responsibilities, problem-solving skills, social skills and the knowledge base needed for the task under assessment. Each assessment was summed up so as to indicate the total grading of the task at hand. Another, rather straight-forward, system was used for assessing employee performance. The unions did not, however, agree with the assessment outcomes. Different ways of emphasising the dimensions were proposed, but no consensus was reached. The development processes of the grading forms were concluded by the end of the 1990s.

The Ministry of Education then established a working group consisting solely of representatives of the employers. The Director of Administration at the University of Joensuu, Matti Halonen, chaired the first group. The situation was unclear as reflected in the group's assignment: to assess the development work so far and to clarify the employer's negotiation targets. The group completed its report on 31 October 2001.

Immediately after the report was published, the Ministry of Education established another working group, again consisting only of employer representatives. This group was led by the present author, who "inherited" the chairmanship from the soon-to-be-retiring Halonen. The task of this working group was to develop and present a proposal regarding the new salary system for the university sector. The deadline for the work was 30 April 2002. The group based its proposals on the work carried out in the pilot universities, but aimed to simplify the job-grading system significantly. It also proposed that employee performance with regard to teaching and research staff should be assessed using the existing criteria for objective academic merits, such as the

number of supervised doctoral degrees and refereed publications (Kekäle *et al.*, 2002). The group insisted that disciplinary differences be taken into account so that the merits of a scholar would be assessed only in comparison with his or her own field of discipline (Becher and Trowler, 2001; Kekäle, 2001).

Once the report was published, various parties were asked to comment on it officially. Soon after this, the Ministry of Education re-convened the working group of employer representatives. This time the working group was assigned the following tasks: to evaluate the impact of pronouncements made by the universities and unions on the group's proposed model for the salary system; to act as a steering group for piloting the universities; to act as an expert panel for the Ministry of Education in negotiations and during the development process; and, finally, to ensure that the reform stays in progress. In order to simplify the job-grading system, the working group organised a piloting effort in which 1 222 salary-earners at six universities were assessed, consisting of scholars and civil servants with a total of 169 different job titles. The unions tried to stop the development work on the grounds that they had not been directly involved in the most recent aspects of the project. The experiment was, however, based on the joint efforts of the original piloting universities. Industrial peace was achieved and the piloting was seen as preliminary work for the development of job-grading systems conducted under the legitimate direction of the employers. The consequence was that the piloting continued and was carried through to completion by the universities.

The job-grading form developed at the University of Tampere was adopted for use. The tasks were then divided into seven different groups for teaching and general staff. The groups were defined on the basis of a total number of points, so that tasks with the highest scores belong to the seventh category and tasks with the lowest scores to the first category. A profile for each group was formed on the basis of typical answers to each of the questions in the original grading form. Verbal descriptions of these answers were then taken as a basis for an overall description of each of the grading categories. This categorisation – a grading map – was then put forward for use as a grading tool. Each task could be compared with the overall descriptions of the grading categories and with other tasks in order to find the most suitable category for each task. This tool combined the numerous dimensions and more than 100 alternatives contained in the original grading form into a single dimension with seven alternative grading categories, thus radically reducing the complexity inherent in the original system. Based on this development work, the working group handed in a report to the Ministry of Education on 12 March 2003 (Kekäle *et al.*, 2003). The report included an explicit proposal for the job-grading system, called the Grading Map.

Initial negotiation process led by the Ministry of Education

At this point, the Ministry of Education considered that the prerequisites for negotiations were present since a concrete model of the assessment system existed and the overall principles of the salary system had been clarified. The Office for the Government as Employer started to follow the process closely. In the spring of 2003 the Ministry of Education established a negotiation group led by Juhani Dammert. The group started its work on the day following the publication of the report (Kekäle *et al.*, 2003). The unions were now directly involved after a long break. The group agreed that negotiations for the collective bargaining agreement could be started. Hopes on the employers' side were high, but it turned out that various affiliated trade unions held conflicting views on the grading system, each of them producing different versions of, and ideas on, the assessment system. The unions worked on their views and proposals, but the discussions were prolonged. In December 2003 came the answer: there was no single, cohesive proposal. The YHL and the Finnish National Union of State Employees and Special Services (VAL) had produced their joint visions, while affiliated unions of JUKO had developed several diverse proposals for the various personnel groups.

The employer responded to these diverse proposals by combining and simplifying them into a form closer to the original model. Throughout the spring of 2004 the chairperson and vice-chairperson of the negotiation group negotiated long hours in a minor working group with the unions in order to achieve a consensus on the assessment methods, especially on the job-grading system that had proved to be the major challenge in the process. Towards the end of 2004 the negotiation group started to meet more frequently; the meetings were typically characterised by disagreements. By this time, the affiliated unions of JUKO had completed their work on their proposal for an assessment system for teaching staff. After intense work they were able to agree on a model that formed the basis for a grading map for teachers. Generally speaking, the fact that the unions had been able to contribute to the development work was an important prerequisite to the assessment systems being considered generally acceptable.

Finally, on 1 November 2004 the negotiation group reached an agreement on the assessment systems, doing so after preliminary negotiations that had sometimes continued in the minor group long into the night. The principle of job-grading remained basically similar to the one proposed by the employers' working group (Kekäle *et al.*, 2003), but there were modifications and alterations, such as entirely separate grading systems for teaching and other staff. The performance assessments of teachers were also to be organised on the basis of the original proposal. This agreement was a breakthrough, since it was the first time that the parties had agreed on the assessment system.

The system was now ready for testing at the universities (Dammert and Kekäle, 2004). The negotiation group toured Finland and held four major seminars with hundreds of participants, and the system was explained to the employer and employee representatives within the university sector. Each university also organised seminars for its personnel. The assessments were carried out in early 2005 and were completed by the end of April 2005. Around 27 000 tasks were graded in 20 universities. Personal performance was also assessed, in the teachers' case on the basis of their academic merits.

Public discussion of the reform

Prior to the assessments many academics had been able to ignore the ongoing reform. But when the assessments and grading started, teachers, department heads and civil servants discovered that the reform was going to affect their working life. Managers and directors had to face their staff, some of whom expressed high expectations concerning their salaries. Some people met with their superiors for the very first time, and they also received feedback for the first time. In some large universities, the system was perhaps used in an unintended way in which the professors assessed the performance of their peers in face-to-face discussions without basing their assessments on a comparison of academic merits. There were also other obvious problems caused by the new and unclear situation, both within the universities and on a more general level. Because of the conflicting intentions of the different interest groups, the rules of the assessment remained at least partially unclear throughout the first assessment round.

Major reforms tend to provoke major resistance, especially in universities. As Clark (1983) has noted, sudden and major changes in universities are difficult to implement because of the diffusion of power and fragmentation of tasks, ideals and goals. In 2005 the reform raised extensive public discussion and criticism, especially within the University of Helsinki which had not participated in the main aspects of the reform process at any stage. It can be assumed that some kind of general frustration was channelled through the criticism. For example, after the severe recession of the early 1990s, the number of students at the universities had increased rapidly while the number of teaching staff had remained relatively stable. There were also clear connections with the particular disciplinary background or culture: the criticism of the system was expressed mainly by social scientists and by scholars representing theology and the humanities. The most vigorous attacks came from left-wing scholars, who seemed to base their viewpoints on the tradition of critical theory, or on the post-Marxian ideals of emancipation and local resistance in the post-modern spirit of Foucault and other critical French intellectuals. Most commentators from the left regarded the reform as a clear indication of increasing neo-liberalism, which was to be resisted. In sharp

contrast with this, however, others were certain that the foundations of the system were imported from the former Soviet Union.

Many were worried about the system's impact on science and research. This is peculiar, as the system takes academic merits into account and rewards scholars on that basis, certainly better than in the previous system in which salaries were mainly based on years spent in service. Similar assessment of professors' personal merits had been used for years in the allocation of bonuses, for example, at the University of Joensuu and in many other universities – with good results and no complaints (as anticipated, the prior assessments have clearly raised the income levels of professors and other university staff). In the proposed salary system, the quality control remains within the scientific community, which approves doctoral dissertations and articles. It had already been agreed that salaries would not be reduced as a result of the reform. Academic freedom, too, is left intact, but merits should be better rewarded than previously (Metsäpelto and Kekäle, 2005). At least some of the commentators who were worried about scientific freedom had not published scientific texts in many years.

Some critical commentators maintained that academic scholars do not need money as such, as they work on an ideological basis and hold scientific knowledge and altruism as their main guideline (Välimaa, 2005). If indeed money does not matter, it is peculiar that these critics spent so much time criticising the salary system. After all, the salary system would not prevent anyone from publishing, or doing their job, but takes publications and outcomes of work into account as a part of the salary plan. As scholars are paid for research and teaching, employers – and the public at large – obviously have the right to view the results every now and then.

Some critics wanted to create – or at least to see – a “scientific” pay system, or they rejected the reform on the basis that it would be unable to provide the “absolute truth”. Koskeniemi (2005), for example, based his criticism on an emancipatory ideal of “truth” which can be nourishing in the context of “mathematics, music, politics and love”, but – for some reason – not in the context of instrumental reason.* Many critics considered the previous salary system better, obviously unaware of the fact that the old system was about to expire (Virka- ja työehtosopimus, 2004). Moreover, the previous one was by no means a scientific system, nor was it based on any idealistic “truth”, but it was agreed between the negotiating parties – and the same principle held true in the case of all imaginable salary systems under the current conditions.

* In the same spirit he later maintained that he was waiting for a revolution: “When research, art, politics and love integrate in a new way, an unforeseen revolution is created” (Koskeniemi, 2006).

The criticism culminated in a petition signed by over 2 000 individuals (of the 31 000 people working in the sector) and addressed to the Ministry of Education. Those signing insisted that the reform had to be stopped. The project was initiated by Heikki Patomäki, a professor of international politics with a background in critical thinking. The movement did not provide the participants with the results that they had expected. Later, the key participants submitted a written complaint against the salary system, questioning the legal basis of the negotiation system and the whole reform. This did not end the project, which had been carried out in accordance with legislation and along the lines decided by democratically elected politicians. If the reform had stopped, the development of wages for the universities' entire personnel – including those who devised the complaint or signed the petition – would have been frozen. As such, petitions like this are not uncommon in the higher education sector (more recently, over 5 000 persons signed a petition aimed at resisting the merger of three universities in the Helsinki area).

What followed such criticism in the public debate, however, was an attack staged by the industrial sector. Numerous leaders of industry maintained that Finland had too many universities and that the efficiency of the whole system was, at best, questionable (*e.g.* Mäenpää, 2005). According to my interpretation, the debate in the major newspapers on the salary system supported the criticism expressed by the industrial sector, which must have viewed speeches arguing for increased emancipation and for a disconnection between salary and work output as irrational and inconceivable. Instead, the patrons demanded greater efficiency from the universities. At the same time, a number of international rankings of universities showed Finnish higher education in an unfavourable light, a factor that probably also sharpened the attack made by industrial leaders. Moreover, the government had recently published its principal decision on the development of the universities and research organisations. In any case, heated discussion on the salary system probably contributed to the policy of structural development (and even scaling down) of higher education in Finland, which came to the forefront as a political and practical development programme, resulting in the publication of numerous reports, concrete pressures, and actions aimed at more streamlined and efficient universities (Mattila, 2006).

By 2006 the debate on the new salary system had calmed down. By and large, the previous sharp criticism had changed to proposals on how to improve the system (Simola, 2006) or on how to channel support for the reform (Kontio, 2006). Kontio (2006) considers – on the basis of his own experiences – that the proposed new system was clearly better than the old one which had, “in the worst instances, enabled civil servants to enjoy increasing salaries and benefits although responsibilities decreased and no results were demonstrated”. Kontio

also viewed the new salary system as “perhaps the best tool to improve the competitiveness of Finnish higher education”.

Final negotiations

In addition to public pressure, the negotiation group faced other severe problems when they were confronted with the results of the first assessment round of early 2005. As expected, many staff members were disappointed by their assessment results. The agreement included a mechanism for dispute resolution in order to solve problems of this kind. But the problem was that while the job-grading carried out at individual universities seemed to be rather coherent, there were, at some extremes, major differences in the assessments as a whole in comparison with other universities. This was at least partially due to the fact that the potential financial consequences of the assessments were not taken fully into account at some of the universities. Put into effect the assessment would have raised salaries by 14% at one major university and by a mere 5% at other, as they stood at that point in time. These differences had to be levelled out, otherwise the economical consequences for some institutions would have been impossible to handle. Although no consensus existed on how to do this, it was clear that the negotiation group – ultimately the Ministry of Education – needed to unify the assessment procedures within the universities.

This was finally done by scaling down the assessment results of those institutions whose results seemed high in comparison with the others. On 16 September 2005 the employers published an offer for the new salary system based on the unified, partially scaled-down data. The deadline for this offer had been agreed in advance by the central negotiating parties under the leadership of the Office for the Government as Employer (section “Central agreements and support for the process”). On the basis of the first assessment round, some alterations were included in the offer for the sake of the unions. Researchers were now to be assessed by means of the same assessment system as that used for the teaching staff. It was also considered important to check the unified assessments at the universities by the end of the year 2005. The trade unions did not approve the offer.

The negotiations continued, but the disagreements between the various parties were considerable. The deadline for the agreement was not far ahead: it needed to be concluded by 30 November 2005. The Ministry of Education decided to issue an order to the universities requesting them to check their assessments so that they would be in line with each other, in other words to make sure that equal assessment scales had been applied; this was requested for 31 October 2005. The trade unions refused to be involved in the new assessment, but in their letter to the unions’ officers the trade union negotiators

permitted the representatives to scrutinise the existing gradings made on the basis of the original assessment systems.

On 21 November the employers published their second offer in relation to the new salary system, based this time on the revised assessments. At the same time it was announced that the deadline for the agreement has been postponed to 15 December 2005. The unions rejected this offer, but proposed concrete improvements that, from their perspective, might render it more approvable. After intense negotiations held during the following weeks – on some occasions continuing until late evening – the negotiation group finally reached an agreement on the new salary system on 16 December 2005. As a part of the agreement, the benefits connected with the old salary system were to continue until the end of June 2006. This additional time was needed to carry out new assessments based on the changed systems and regulations. The deadline for the agreement, which would be approved as the actual collective bargaining agreement, was set for 31 May 2006.

The new and complementary assessments and gradings of some 24 000 university employees were completed by 15 April 2006. After the new round of assessments, there was a clearer and better balance between the universities. The salary system would also provide a raise in salary for 80% of the total staff working at the universities over a transitional period of four years.

The negotiations continued. The employers made four additional offers to the unions. The unions replied, and on each occasion the versions of the draft were improved on the basis of the negotiations. According to the schedule, the final negotiations were to be conducted during the day and late evening of 31 May 2006. The parties, however, still had different and dissenting opinions. At around 8 p.m. the employers made a final offer on the issues that remained open, stating that if no agreement were reached within the time-schedule, the whole package might have to be reconsidered later on. The unions replied that they were unable to accept the offer at that point, and the negotiations ended without results.

After that frustrating occasion, the negotiation group did not reconvene. However, the chairperson of the group, Juhani Dammert, remained in contact with the unions' negotiators, trying to save what could be saved. With hindsight, only a few critical issues seemed to be in the way of agreement. On the basis of final contacts and discussions, the employer made its seventh and absolutely final offer on 7 June 2006, stating realistically that if no agreement were reached, the staff at the universities would inevitably lose money, since further negotiations would postpone the date by which the contract could be put into effect. On the morning of 9 June 2006 a meeting presided over by the Office for Government as Employer and by the Ministry of Education was organised in Helsinki, at which two of the three union parties decided to sign

the agreement. Their signatures were, however, to become valid only on the condition that all parties eventually signed the contract.

YHL/Pardia refused to sign. Possibly by coincidence, the union's main negotiator, Kerttu Pellinen, the YHL chairperson, had scheduled a midday flight to Joensuu to celebrate the 30th anniversary of the local union. The present author re-organised his own schedule and met her at the airport. After thorough discussions that took up the whole afternoon and involved telephone negotiations between the chairperson and the government of the union, the agreement was finally signed by the vice-chairperson of the negotiation group and the chairperson of YHL. The decision-making bodies of the unions discussed the issue after the agreement was signed. For some weeks it was still uncertain whether or not the agreement would be confirmed by the unions as a collective bargaining agreement on the new salary system. By 21 June 2006, however, all of the unions had decided to confirm the agreement.

The new salary system

What is the new salary system like? The objectives of the new salary system of the universities are to promote fair salaries, to improve the salary competitiveness of the universities as employers, to support staff in developing their skills and in seeking more demanding tasks, to encourage staff to perform better, and to improve leadership and leadership skills.

The contract includes, among other things, a Protocol of Negotiated Outcomes for the Introduction of a New Salary System in Universities, comprising regulations on the scope and content of the agreement. The protocol also includes Industrial Peace obligations. The new salary system was introduced at the universities on 1 January 2006, to be implemented over a transition period in five phases, for completion on 1 October 2009.

Assessment systems

The salary for Government Civil Servants and Employees under Contract consists of a task- or work-specific component based on *job demands*, of a personal component based on *personal work performance* and of a *guaranteed salary* component. There are two assessment systems for university jobs, one for teaching and research staff and one for general staff. The employer decides which system should be applied to an employee, according to agreed criteria.

Likewise, each university has two assessment groups for job grading, comprising both employer and employee representatives: one assessment group for teaching and research staff and one for general staff. The assessment groups level out and balance the assessments to ensure equal

treatment. Similar tasks are graded to the same demand group. Additional information and expert opinion on tasks can be sought when needed.

The assessment of tasks for the *job demands* component is based on a job description and an assessment system applied to those tasks. These are considered during assessment discussions between the employee and his or her superior. The superior proposes a job demands level based on the assessment discussion. The assessment procedures for teaching and research staff may vary between universities. Expert groups consisting of several persons can assist with the assessment.

The Job Demands Chart for Teaching and Research Staff (Grading Map) includes 11 levels:

- Levels 1-4 are for those working on their doctoral degrees.
- Levels 5-7 are for doctors and independent teachers and researchers who typically lead their own research groups (levels 5 and 6 have different sections for tasks with an emphasis on teaching or research).
- Levels 8-11 are for staff with professorial qualifications.

The highest level is reserved for academic research professors and scholars whose teaching and research involves strategic planning, organisation and co-ordination of leading-edge research projects (such as Centres of Excellence) or networks, and whose work is highly valued by the academic community.

The *personal work performance* component of the salary is determined on the basis of the employee's level of performance. For teaching and research staff, the main criteria of assessment are teaching and research merits along with merits in community or university service; the assessment of personal performance is based on documented merits related to the task (e.g. academic publications, the number of supervised doctoral degrees and teaching merits). For general staff, the main criteria of assessment (carried out by a superior) are professional skills, responsibilities, interaction within the work environment, work quality and productivity. The personal work performance component of the salary cannot exceed 46%, and later 48%, of the task-specific job demands component of the salary at the time of assessment. Assessments of personal work performance are to be carried out annually for the general staff and at least every three years for the teaching and research staff.

The job demand level is determined first, the personal performance level adds to the salary and together they form the salary in the new salary system.

Negotiated salary outcomes

Concerning the *guaranteed salary* component, an employee of the university at the time of implementation of the new salary system is entitled

to a euro-based, guaranteed salary. The right to this guaranteed salary is effective as long as the employee remains continuously employed by the same university. The guaranteed salary is also paid as long as it is higher than the salary that would be paid according to the new salary system outlined in the agreement.

The increase in the overall costs of university salaries caused by the agreement is 7.24% during the aforementioned transition period. The job-specific salary component and the fees payable to staff for undertaking administrative tasks, for acting as union representatives, and for serving as occupational health and safety officers were paid immediately and to their full extent. Otherwise, the salaries defined by the new salary system have taken effect during the transition period in stages. Overall, the salary system will provide a raise in salary for over 80% of the total staff working at the universities during the four-year transitional period.

Dispute resolution

In such a major reform, mistakes will be made and people's expectations vary considerably. Disputes concerning job demands and personal work performance assessments are dealt with in each university following a request by the employee in question, or his or her union representative, in negotiations with the supervisor responsible for the original assessment or other members of the university responsible for salary administration. In the case of job demands assessments, the university assessment group can be called to participate in the negotiations.

Feedback

During the last quarter of 2006 the state sector was paying higher rises (3.7%) than any other sector in the Finnish labour market, largely because of the new salary system (Petrow, 2007). According to Pardia's 2002-06 comparative study of the civil servants that it represents, the new salary system is clearly more rewarding than the previous one, since it takes changing tasks better into account and encourages civil servants to develop their work. As the complexity of the pay system has increased and the clarity decreased, however, there is still work to be done (Nummi, 2007). The personnel barometer of the University of Joensuu for the year 2006 indicates a slight increase in satisfaction concerning the rewarding aspects and fairness of the pay policy at the university. A study of the new system showed, however, that the occasional high expectations in relation to the salary and reward systems had not been fulfilled, as approximately 50% of the respondents remained dissatisfied. The grading system, however, was not criticised. It seems that scaling down the assessment results both on a national level (section "Final negotiations") and at the universities had caused

most of the negative feelings, especially in relation to job-based pay (Salimäki and Holmberg, 2007). The employer needs to maintain a consistent pay policy and cannot allow widely differing assessments in separate units without good grounds. In addition, there has not always been money available for all the increases proposed.

An independent study shows that the new system has increased the salaries of professors by 5.7% during 2006, resulting in an average salary of EUR 5 271 (compared with EUR 4 988 in 2005). Clearly, a larger number of professors were satisfied with their salaries than in 2001-06: in 2005 only 25% of respondents were satisfied with the salary, while in 2006 the figure had risen to 35%. Those who remained dissatisfied estimated that the gap between their ideal salary and their actual salary was, on average, EUR 936 (Lauha, 2007). In 2007 the average professorial salary was EUR 5 638 per month, an increase of 6.7% over the previous year. Expectations about salaries had, however, also risen as the gap between the ideal and the actual salary had remained the same as in the previous year (Lauha, 2008).

Concluding remarks

As the discussion presented above illustrates, processes like these are not easy to carry out, and complete satisfaction with the outcome is certainly not guaranteed. The negotiations were conducted between independent and properly democratic parties; the process was led by the employers but was affected by all of the parties. The end result was a compromise between different interests, and the outcomes were impossible to dictate or predict. As the process has taken numerous paths, encountering false starts and dead ends, informing staff about the latest developments was difficult. This has tended, therefore, to result in the common labour market practice that staff have ultimately been informed of the contents after an agreement has been signed.

The paradox of negotiations of this nature is that the harder the separate negotiating parties foster their own interests, the more difficult it becomes for the parties to jointly reach a compromise and an agreement. In short: narrow short-term interests can cause far-reaching and long-term failure in the system.

From my own point of view, the picture of the negotiation project and its potential development seemed to change from day to day, often even during the very same day, over a period of several years. This is the nature of the work, which means that outsiders cannot form a “scientific” picture of the process while it is being carried out, nor can they comprehend the reasons and discussions behind the compromises made. In consequence, the public comments on the process were typically full of misunderstandings. The nature of the process also means that, while it is always easy, especially for outsiders, to propose normative ideas and ideals on how things should be

done, carrying out and sustaining them in negotiations so that they still exist in the final agreement is extremely demanding.

Some of the positive aspects of the long process are that it provides this sector of the labour market with stable conditions and industrial peace. The process has been demanding for the parties, but all have been able to contribute. This means that the level of commitment is higher than in changes that might be directed by the employer. In addition, willingness to radically alter a system or to start a process anew is probably low, factors that are likely to stabilise conditions even in the future. This was evident when the Office for the Government and the unions renewed the agreement with no major alterations for the period 2008-10. The transitional period was shortened: the new salaries were paid in full from 1 January 2008 onwards. The system will next be under negotiation at the turn of the forthcoming decade.

Broadly speaking, while it will never satisfy all members of staff, the system nevertheless provides the universities with a flexible framework including tools for equal treatment, an ability to reward good performance within the limits of budget, and the possibility to improve management and leadership, while at the same time it changes the leaders' role. It may also be easier to pay competitive salaries while managing the overall budget of the institution. However, much will depend on the future application and development of the system – leadership and the degree of realism in the expectations of the staff regarding the salary system at large – as well as budgets. The application of the pay system undoubtedly poses a challenge for both employers and union representatives at the Finnish universities.

Acknowledgements

Numerous colleagues have commented on this paper. I am especially grateful to Teuvo Metsäpelto, the Labour Market Leader of the government, Seija Petrow, the Director of Collective Agreements, and Counsellor Tuomo Vainio for their comments and additions.

The author:

Jouni Kekäle
 Director of Human Resources
 University of Joensuu
 P.O. Box 111
 80101 Joensuu
 Finland
 E-mail: jouni.kekale@joensuu.fi

The author is also Adjunct Professor in Administrative Sciences at the University of Tampere and Adjunct Professor in Psychology at the University of Joensuu.

References

- Becher, T. and P. Trowler (2001), *Academic Tribes and Territories*, Second Edition, SRHE and Open University Press, Suffolk.
- Clark, B.R. (1983), *The Higher Education System: Academic Organization in Cross-National Perspective*, University of California Press, Los Angeles.
- Dammert, J. and J. Kekäle (2004), "UPJ-arvioinnit käynnistymässä yliopistoissa" (Assessments Connected to New Pay System Are about to Begin at Universities), *Valtiotyönantaja*, April, pp. 16-18.
- Government of Finland (2001), "Periaatepäätös valtion henkilöstöpoliittisesta linjasta" (The Government's Principal Decision on the Lines of Personnel Policy of the Government), *Valtioneuvosto*, Helsinki.
- Kekäle, J. (2001), *Academic Leadership*, Nova Science Publishers, New York.
- Kekäle, J. et al. (2002), "Ehdotus yliopistossa käyttöön otettavaksi palkkausjärjestelmäksi ja sen perustelut" (A Proposal for a New Pay System for the University Sector), report by the Employer's Working Group, Ministry of Education, Helsinki, 29 April.
- Kekäle, J. et al. (2003), "Arviointijärjestelmien testauksesta vaativuustasokarttaan" (From Testing the Grading Systems to a Grading Map), report by the Employers' Working Group, Ministry of Education, Helsinki, 12 March.
- Kontio, J. (2006), "Uusi palkkausjärjestelmä lisää yliopistojen kilpailukykyä" (The New Pay System Increases the Competitiveness of the Universities), *Helsingin Sanomat*, 10 April, p. A 1.
- Koskenniemi, M. (2005), "Regiimi, totuus, ja uusi palkkausjärjestelmä. Requiem tieteen autonomialle" (Regime, Truth and the New Pay System: Requiem for the Autonomy of Science), speech, University of Helsinki, 21 March.
- Koskenniemi, M. (2006), radio interview, *Yle Radiouutiset*, 14 January.
- Lauha, Y. (2007), "UPJ nosti professoreiden palkkoja 5.7%" (The New Salary System Has Increased the Salaries of Professors by 5.7%), *Acatiimi*, Vol. 9, No. 3, pp. 14-15.
- Lauha, Y. (2008), "Professoreiden palkkakehitys jatkui vahvana" (The Strong Growth in Professors' Salaries Continued), *Acatiimi*, Vol. 10, No. 3, pp. 19-20.
- Mäenpää, M. (2005), interview, *Helsingin Sanomat*, 29 April.
- Mattila, A. (2005), "Valtio työnantajana. Valtion työmarkkinalaitos 1955-2005", (Government as an Employer: The Office for the Government as Employer 1955-2005), Ministry of Finance, Jyväskylä.
- Mattila, M. (2006), "Rakenteellinen kehittäminen esillä yliopistojen tulosneuvotteluissa" (Structural Development included in Negotiations between the Ministry of Education and the Universities), *Korkeakoulutieto*, February.
- Melin, H. (2006), "Muuttuva yliopisto – ay -liikkeen haasteet" (Changing University – The Challenges for the Trade Movement), presentation at the University of Joensuu, 10 June.

- Metsäpelto, T. and J. Kekäle (2005), "Myös yliopistot tarvitsevat uuden palkkausjärjestelmän" (Even the Universities Need a New Pay System), *Helsingin Sanomat*, 20 March, p. A 3.
- Ministry of Education (2006), *Universities 2005: Annual Report*, Ministry of Education, Vol. 31.
- Nummi, P. (2007), "Kannustavuus parantunut, selkeydessä petrattavaa" (More Rewarding, but Clarity Needs Increasing), *PardiaNyt*, Vol. 3, No. 2, pp. 40-41.
- Petrow, S. (2006), *Development of Public Service Control Systems in Finland: A Transparency*, Ministry of Finance, Finland.
- Petrow, S. (2007), "Liittokierroksella ollaan" (Local negotiations Are on Their Way), *Valtiotyönantaja*, February, p. 1.
- Salimäki, A. and A. Holmberg (2007), "UPJ yliopistomaailmassa" (The New "UPJ" Salary System at the Universities), Helsinki University of Technology, Laboratory of Work Psychology and Leadership, report 2007/5.
- Simola, H. (2006), "Suoritusarviointi ei sovi yliopistoon" (Assessment of Performance Does Not Suit the Universities), *Helsingin Sanomat*, 12 March, p. D 5.
- Välimaa, J. (2005), "Akateemista työtä vaikea arvioida mittarein" (It Is Difficult to Assess Academic Work by Using Measurements), *Helsingin Sanomat*, 17 March.
- Virka- ja työehtosopimus (2004), "Uusien palkkausjärjestelmien kattavasta toteutuksesta valtionhallinnossa" (Collective Bargaining Contract on the Comprehensive Realisation of New Pay Systems in Government Organisations), Edita Publishing, Helsinki, 14 December.
- VTML (Valtion työmarkkinalaitos) (1992), "Valtiotyönantajan palkkapolitiittinen ohjelma" (A Plan for the Pay Policy of the Government), VTML, Helsinki.

(Re)Conceptualising the Academy: Institutional Development of and beyond the Third Mission

by

Tim Vorley and Jen Nelles

University of Cambridge, United Kingdom, and University of Toronto, Canada

Framed in terms of the Third Mission, the “enterprise” or “entrepreneurial” university has increasingly become normalised in public policy; however there remains much contention about the implication of third stream activities. There is little rigorous evidence as to whether the Third Mission adversely affects teaching and/or (basic) research. Martin and Etzkowitz (2000) note there is some anecdotal evidence that the Third Mission has had a positive impact. Indeed, it is to this debate that this paper seeks to contribute. It considers how the Third Mission can positively reinforce teaching and research activities and how this is arguably more significant than the Third Mission itself. Indeed, it proposes that triangulating teaching, research and third stream activities should reinforce the respective dynamics of each through their recursive and reciprocal development. Conceptualising institutional engagement with the third stream holistically in terms of entrepreneurial architectures may enable universities to stimulate institutional development beyond the Third Mission. The paper concludes by reflecting upon and looking towards the future of higher education policy and the management of higher education institutions.

Introduction

“[T]he research university powers the knowledge economy in the same way that electricity powered the industrial economy.” (Mote, 2000)

The social contract between universities and society has been amended, if not rewritten, over the past 30 years. Universities are no longer simply dedicated teaching and research institutions; they are now regarded as the engines of the knowledge economy. Mote (2000) sees the research university as powering the knowledge economy in the same way that electricity powered the industrial economy. However while not contesting the importance of universities to the knowledge economy, there is a need to reflect more critically upon their role. While electricity did power the industrial economy, it is an output of numerous processes and uses raw materials. In a similar vein, while the importance of the contemporary university for the knowledge economy has been recognised, there is a need to refocus on the functions of teaching and research, the ultimate generators of innovation within universities and the source of knowledge transfer.

Framed as the Third Mission, the “enterprise” or “entrepreneurial” university has increasingly become central to public policy. The Third Mission is a phenomenon, articulated in policy, in which higher education institutions are encouraged to realise their broader socio-economic potential through knowledge exchange and partnerships. However its broader impact remains contested and the subject of normative debate. There is little evidence as to whether the Third Mission, as a set of “new” roles, adversely affects teaching and/or (basic) research (see Ziman, 1991; Geuna, 1999; Behrens and Gray, 2001). Martin and Etzkowitz (2000) note there is some anecdotal evidence that the Third Mission has had a positive impact. It is to this debate that this paper seeks to contribute. It considers how the Third Mission can positively reinforce teaching and research activities and how this is arguably more significant than the Third Mission itself. It proposes that triangulating teaching, research and third stream activities should reinforce the respective dynamics of each through their recursive and reciprocal development. The concept of entrepreneurial architecture is introduced as a theoretical framework within which the third stream can be embedded within core institutional missions. This provides a pragmatic approach for policy makers and managers confronting the challenges of the Third Mission.

The paper begins by identifying and situating the so-called Third Mission and university entrepreneurship, identifying its emergence as an integral facet of the contemporary university. Exploring the political dynamics of the Third Mission, the paper considers how this can serve as a mechanism of institutional development beyond the Third Mission itself (i.e. for teaching and research). The second section picks up the theme of institutional development and how it can be affected by the Third Mission, but needs to be deliberate – embedding the Third Mission within the strategy and ideology of universities through institutional entrepreneurial architectures. It concludes by reflecting upon and looking towards the future of higher education policy and the management of higher education institutions.

Evolving missions, fuzzy roles

Universities are evolving institutions. Everywhere higher education institutions have endured revolutions in the ways in which their roles and functions are conceived. This paper provides an overview of general trends in the development of the modern university and the emergence of a new paradigm embodied in the Third Mission. The earliest medieval universities, primarily within Europe, were established through religion as teaching institutions, and subsequently expanded by sovereigns, monarchs and the state. Despite the association of universities with religion, functioning as they were as training centres for the clergy (Jewell, 1998), they were also more than this. Newman (1852) observed how it was necessary for universities to reinforce credibility through teaching universal knowledge, with the focus on intellectual as opposed to moral teachings. As such the primary role of the medieval university was the diffusion and extension of the frontiers of knowledge rather than the advancement of knowledge *per se*.

Universities existed as teaching institutions until the mid 19th century when an alternative model emerged. This paradigmatic shift, which Etzkowitz *et al.* (2000) refer to as the first academic revolution, saw research introduced as a core function of the university alongside teaching, and is commonly attributed to Wilhelm von Humboldt. In contrast to Newman's vision of the university, the Humboldtian university saw academics both as teachers and scholars. Indeed Martin and Etzkowitz (2000) observe how it has become "conventional wisdom" that universities are teaching and research institutions, with bewildering results in the development and extension of disciplinary fields. In contrast Johnston *et al.* (1993) note there is no empirical evidence that teaching has any influence on research performance, while Nybom (2003) observes that in fact the unity of teaching and research is being superseded by two distinct cultures.

Whether unified or distinct, as core missions of the contemporary university, teaching and research are increasingly subject to a new dynamic. The prevailing growth of the knowledge economy sees universities as engines of economic growth (King and Nash, 2001; Yusuf, 2007), constituting a shift which Etzkowitz et al. (2000) frame in terms of a second academic revolution. Essentially the revolution refers to the transformation of universities from ivory towers to more socio-economically engaged institutions. The notion of universities engaging with industry and society, however, is not a new one (Jacobsson, 2002). Relationships between universities and industry are almost as old as universities themselves (Jencks and Riesman, 1968) – yet the second revolution marks a new era in this engagement. Kerr's (1963) proposition that the diversifying remit of universities should more accurately see them called *multiversities* appears to have become ever more of a truism. However, on account of the predominantly economic focus of activities associated with the new mission they have been referred to as “entrepreneurial” universities (Clark, 1998a, 1998b; Etzkowitz et al., 2000).

It is not the intention here to intimate that a homogenisation between national systems of higher education has occurred, or is occurring. Indeed there remain strong distinctions between countries. However, the transition from “ivory tower” to “entrepreneurial university” can broadly be seen as universal in light of the global nature of the knowledge economy, despite occurring at differing rates. The United States has been at the forefront of pioneering university-industry links and commercialising academic research. Universities such as the Massachusetts Institute of Technology and Stanford, which were once perceived as atypical, are becoming the standard, prompting other institutions and governments seeking to emulate their successes. This trend has been replicated in the United Kingdom, and subsequently across Europe and Asia, albeit in different guises (see Etzkowitz et al., 2000).

Public policy framed as the Third Mission emphasises the positive impacts of deeper socio-economic engagement from publicly funded higher education institutions. While, in principle, this definition provides equal scope for social and political engagement, in practice the Third Mission exhibits a strong bias towards economic interactions based on knowledge transfer (OECD, 2007). This bias is reinforced by government funding the exploitation of academic, or more accurately, scientific research (Geuna, 2001; Goddard and Puukka, 2008) and by the proliferation and significance of leagues tables in measuring competitive performance (Salmi and Saroyan, 2007).

As the Third Mission has become more established it has diversified to a point. Tuunainen (2005) finds it encompasses a wide range of activities involving the generation, use, application, and exploitation of knowledge and other university capabilities outside academic environments. Still it is significant

that much of the work on university entrepreneurship and engagement is couched in strictly economic terms with a primary focus on industrial linkages. Göktepe (2002), for instance, distinguishes between specific and generic mechanisms of “university industry technology transfer” (UITT). This typology differentiates between Set-1, those forms of UITT which endeavour to commercialise university knowledge directly, and more generic and indirect mechanisms of UITT identified as Set-2. These include consultancy, joint workshops, co-funded research and personnel exchange, among others. This highlights the paradigmatic shift that has occurred and which has resulted in the rise of the (market focused) entrepreneurial university. Geuna and Nesta (2003) argue that this shift has seen the dominant norm become managing industrial research agreements, assessing and protecting intellectual property, and the commercial translation of science rather than blue-sky research or other forms of knowledge exchange.

The entrepreneurial turn within academia can most clearly be seen as based in the sciences, most notably with biotechnology and information technology at its core. The scientific foundation of the Third Mission, especially in relation to the mechanisms of technology transfer and commercialisation, meant that such activities were almost exclusively the domain of research-intensive universities. While this met the objectives of governments and research-intensive industries in extracting the value of the academic research base, it did not contribute significantly to the realisation of institutional economic or societal potential.

Historically, there has always been a binary divide between “tiers” of academic institutions, whether new *versus* old universities; teaching *versus* research led; basic *versus* applied research (for example see Williams, 1992). The Third Mission is not entirely different in this respect, with different forms of UITT associated with different degrees of prestige, though it presents a more equal basis for engagement. Furthermore the somewhat premature split between Set-1 and Set-2 forms of UITT arguably only serves to distort the Third Mission, effectively creating an artificial divide, as some institutions adopt this mission to pursue prestige rather than effectively engaging in alternative (less prestigious) third stream activities. The increasing number of UITT mechanisms recognised as Set-2 shows how the evolution of third stream activities is seeing the Third Mission become more inclusive, even within the sphere of interaction with industry. Consequently a wider spectrum of less research-intensive universities is able to engage in third stream activities, so realising their competitive advantage(s). While more generic forms of UITT do not demand research intensity *per se*, they often capitalise on the specialisms of individual academics and/or specific research groups within universities.

This evolution has also seen the Third Mission extend beyond the science base. In addition to the sciences, the knowledge base of universities transcends

the arts and social sciences, yet in terms of the Third Mission, non-scientific knowledge has been largely overlooked in the literature and in practice (Mould *et al.*, 2008). Whether at the apex of the knowledge economy (Knell and Oakley, 2007), or as a distinct economic sector, Mould *et al.* identify how universities are also beginning to engage in more non-scientific, creative and cultural third stream activities. Again with the inclusion of non-scientific and more creative/culturally orientated forms of third stream activities, the Third Mission becomes more accessible to a wider range of institutions.

While the Third Mission is often considered in relation to universities, the three missions of universities are invariably conducted in relation and response to society. This sentiment is aptly articulated by Foucault (1971) who identified the importance of universities as a form of least-cost state apparatus, capable of engineering social, economic and political objectives. Sutherland (1994) observes the dialogue between governments and universities as demonstrating how universities respond to the demands of the state, and in so doing highlighting the power dynamic between the two (for a more comprehensive discussion see Vorley, 2008). It is increasingly evident that through the Third Mission more universities are assuming roles as engines of the knowledge-based economy, at different geographical scales and through different forms of engagement.

Universities are being required to fulfil a greater and greater socio-economic role in the context of shifting policies, incentives and priorities; however, as a result there is a need to reflect on the implications of the entrepreneurial university. Such a shift has implications for the legacy of the Humboldtian research university, although this need not be detrimental. The following section outlines key strands of debate and develops how the Third Mission has the capacity to reinforce the teaching and research missions, and so facilitate institutional development beyond the third stream activities.

Expanding the academy: institutional development beyond the third stream

The ideology of the Third Mission – even if not acknowledged everywhere in these terms – has infiltrated the consciousness of higher education policy makers and university management and has begun to gain purchase in academic cultures. While this shift has been pervasive, as outlined above it has not proceeded without controversy or critique. The degree to which institutional change is required to adapt to the necessary conditions of the third stream has raised questions that strike at the very heart of university functions and their roles in social, economic, cultural and knowledge (re)production (Deem, 2007). The dominant streams of this debate focus generally on two related dilemmas. First, what functions are universities best suited to

fulfil (or take on) in their roles as engines of economic development? That these institutions are the best and most appropriate conduits and producers of knowledge, providers of training, etc. is often assumed but is not always justified (see Fuller, 2007; Garnsey, 2007). Second, what implications do the (new) economic and social roles demanded by the third stream have for the traditional and arguably core missions of teaching and research?

This section focuses on this second question of the impact of the Third Mission on trajectories of institutional development. Arguments regarding the inevitability of trade-offs between missions, or the potential for their co-option by purely industrial imperatives have been well documented and debated. While counterarguments that point to the potential for positive interaction between the three missions exist, they are typically vaguely elaborated (Etzkowitz *et al.*, 2000). By presenting the case for the Third Mission to initiate institutional development beyond the third stream through the framework of entrepreneurial architecture, the paper seeks to contribute to the growing body of literature on the contemporary university, and specifically the Third Mission.

Far from standing alone, the Third Mission is inextricably linked to the core functions of the university. It is therefore puzzling that the third stream is often perceived, discussed and even implemented as a separate agenda. The Third Mission is more accurately conceptualised as a thread that has the capacity to weave together teaching and research, while assuming a more economic and societal focus. Despite the extending frontiers of the contemporary university, it need not be a zero-sum game involving necessary trade-offs between streams (see Behrens and Gray, 2001; Nieminen and Kaukonen, 2004). The Third Mission has the capacity to reinforce existing institutional strengths but also stimulate development in these areas beyond third stream activities. This process is both recursive, as positive feedback can be magnified beyond the third stream, and responsive to the degree that it is adaptable to institutional strengths and developmental requirements.

The relevance of research to the third stream, and *vice versa*, is the most obvious recursive dimension. As noted above, the Third Mission is most commonly (and narrowly) conceptualised in terms of technology and knowledge transfer activities – both of which are typically dependent on a research base. The focus of public policy on third stream activities, most commonly in terms of funding streams/mechanisms, has seen an increase in the resources available for knowledge exchange to universities (Guená, 2001). Moreover, public policy has begun to encourage research between university and industrial partners, for which governments often provide additional support to university researchers. While often dismissed as detracting from curiosity-driven research, the search for practical solutions has played an important role in extending the boundaries of academic inquiry and opening up new areas of research

(such as biotechnology and computer science) (Thorn and Soo, 2006). Indeed, far from being detrimental to academic aspirations Nieminen and Kaukonen (2004) find collaborative research with industry often produces a “win-win” situation, whereby there is more funding for research as well as opportunities for creative networking outside the academy.

While the Third Mission is often thought to privilege research-intensive universities, it has the capacity to develop the research base of all institutions. With public funds increasingly distributed on the basis of institutional performance on measures of research excellence (Benner and Sandström, 2000; Molas-Gallart and Castro-Martinez, 2007), this provides a powerful incentive for all institutions to strengthen their research base. One implication of this is that teaching-led universities face pressure to adapt in order to retain competitive access to public funding. It is this dynamic that is most frequently cited as contributing to a zero-sum (or near to) situation in which institutional strategies are shifting towards more “profitable” streams. This is an issue which demands further consideration. Etzkowitz *et al.* (2001) observe the phenomenon of “status emulation” in higher education systems in the process of transition, resulting from the adoption of the strategies of research leaders irrespective of institutional “fit”. However, it is interesting to note that the strategy of emulating leaders also permeated preceding academic revolutions and reorganisations (Williams, 1992). The widespread restructuring of higher education institutions on the model of Huboldt’s Prussian academic reforms are the original case in point. While there is no question that the research agenda has become more prominent in the modern university – both as a means to access funds and as a strategy of institutional development – there is little evidence to support the notion that educational roles have been proportionally reduced (Behrens and Gray, 2001; Stephan, 2001). A more powerful critique of the increased emphasis on research is the degree to which universities are encouraged to pursue projects with potential economic returns.

The most resilient counterargument to the claim that the third stream may strengthen research capabilities is that the emphasis on commercial applicability has privileged applied over basic research (Nedeva, 2007). Recent scholarship that has addressed this question argues that this concern is largely unfounded. In their analysis of the academic publishing content of collaborative research groups, Ranga *et al.* (2003) find no evidence that university-industry relations have affected the proportion of basic research publications. Similarly, Poyago-Theotoky *et al.* (2002) conclude that engagement with industry shows no deleterious effects on either the quantity or quality of basic research. Jensen and Thursby (2004) further echo this finding in terms of the time researchers allocate between basic and applied streams of inquiry. This conclusion is reinforced by the proliferation of studies that outline the difficulties

industry and technology transfer offices have in extracting intellectual property from within universities (see Baldini *et al.*, 2005; OECD, 2003; Markman *et al.*, 2004). These demonstrate that, in many cases, far from being co-opted by industry for commercial output, or shifting research objectives wholesale to produce ideas for market, academics are often cautious and reluctant to pursue potential avenues of commercialisation. This is in part due to persistent academic cultures that privilege basic research leading to publication over “local” activities such as commercialisation (Markman *et al.*, 2005). Finally, it is a fallacy that industrial actors are only concerned with supporting research with direct or immediate potential impact on their primary economic interests. While the demise of basic research is clearly overstated, there are certainly legitimate concerns regarding the effect of third stream engagement on academic life, freedom and behaviour. What is critical here is that the institutional adoption of the Third Mission does not necessarily result in trade-offs between basic and applied, teaching or research missions, and often reinforces these core functions – that is to say it is not necessarily a zero-sum game. The degree to which these positive returns can be effectively harnessed is less a function of the characteristics of the third stream in the abstract (as it is often discussed), but of institutional strategies in adapting to Third Mission goals.

The Third Mission also has a potentially positive recursive impact on teaching and training missions. In many respects the logic that supports this contention should be intuitive and echoes many of the arguments tabled following the first academic revolution. Just as the involvement of faculty in their own research agendas enhances the value of teaching (Etzkowitz *et al.*, 2001), enterprising academics with links to industry, collaborative research experience and/or commercial experience, can also deepen the scope of the learning experience. This type of engagement can lead to the initiation of new programmes and the potential for valuable curriculum updates (Stephan, 2001). Furthermore engagement outside the university is not restricted to faculty, indeed students are increasingly interfacing with industry and the regional economy through their involvement in research projects and co-operative education placements. Etzkowitz *et al.* (2001) argue that teaching is expanded as students test the practical applicability of their knowledge in the “real world”, acting as intermediaries between the university and other spheres. Industrial engagement and the Third Mission provides a mechanism through which students can be linked to the economy more efficiently through pre-employment interaction (Stephan, 2001). Behrens and Gray (2001) similarly find the potential for external, often industrial, sponsorship benefits students. Such student involvement can also contribute to institutional cultural shifts and further reinforce the importance of the third stream to faculty (see Nelles and Vorley, 2008b). The potential for recursive and responsive interaction between the Third Mission and teaching within higher education institutions is clear.

However, participating in third stream activities does not guarantee positive feedback to research and teaching missions. This highlights the importance of tailoring institutional approaches to the Third Mission to maximise positive recursive effects and minimise the potential for negative feedback.

Having demonstrated how the third stream can buttress “traditional” university functions we come full circle – back to the question of how policy has been perceived and implemented both at the government and institutional level. The Third Mission, where it is adopted, is not necessarily a self-reinforcing or mutually reinforcing phenomenon (Hatakenaka, 2005; Nedeva, 2007). In order to realise positive effects beyond the third stream, the entrepreneurial mission needs to be embedded in the broader institutional strategy of the university. As such, it is argued that the potential for positive returns and negative externalities from the third stream is less a function of the paradigm of external engagement in the abstract than of specific contexts and modes of institutional adaptation.

The third stream has typically been adopted as a bolt-on mission, with a technology transfer and/or industrial liaison office established that, at least initially, embodies the Third Mission. However, real success in the third stream depends largely on the degree to which the Third Mission is consolidated and embedded within the university as part as a broader entrepreneurial architecture – a concept introduced by Burns (2005) and elaborated by Nelles and Vorley (2008a). An entrepreneurial architecture consists of the institutional, communicative, co-ordinating and cultural elements of an organisation oriented towards innovation. An entrepreneurial architecture comprises five elements: structures, systems, strategies, leadership and culture (Burns, 2005). These are interrelated and overlapping, however the presence and co-ordination of all five is required in order to secure successful adaptation to the Third Mission. This theoretical approach is developed in detail elsewhere, however, it provides a useful lens through which to conceptualise institutional engagement with, and embeddedness of, the third stream. Two core arguments related to entrepreneurial architectures are significant in this context. First, an entrepreneurial architecture approach requires a holistic strategy that unites visions, leadership, structures, networks and cultural consideration. The adoption of a strategy that incorporates these elements increases the potential for teaching and research considerations to shape third stream engagement and establishes internal linkages to integrate and mediate these goals. Secondly, entrepreneurial architectures emphasise third stream engagement along institutional strengths, rather than the straight emulation of the strategies of high performing universities. Embedding the third stream within existing institutional strengths is a fundamental component of entrepreneurial architecture. Therefore, it provides both a theoretical and pragmatic approach to

policy makers and managers seeking to adapt the Third Mission and stimulate institutional evolution.

This is particularly salient as it is clear that third stream engagement does not necessarily imply institutional *embeddedness* (Hatakenaka, 2005). From this perspective third stream engagement can vary in terms of the intensity of institutional integration. Intensity can be gauged both in terms of the levels of knowledge exchanged (versus transferred) and of the degree to which external engagement is linked into teaching curricula and research culture. A minimum level of institutional engagement could consist of limiting the third stream to contract research with industry. Here the interface between the third stream, teaching and research is minimal and interaction between industry and the university remains strictly prescribed by the boundaries of contract deliverables. Ideally, industrial engagement is seen as a valued mission in which engagement is integrated into long-term institutional planning both as an end in itself (i.e. as another potential revenue stream) and as a tool to stimulate institutional development.

This embeddedness requires that the third stream activities are recognised explicitly by university management and faculty as an opportunity for institutional development – and as a mission to be moulded to university strengths rather than copied from more prominent entrepreneurial universities. As a result, the importance of third stream leadership, i.e. the entrepreneurial architects, should not be underestimated. Although leadership is only one dimension of an institution's entrepreneurial architecture, it is a critical piece of the puzzle in the integration of third stream activities. Indeed, this observation has been recognised in literature on higher education management, which finds that where the third stream is championed by a dedicated university officer (typically a vice-president/pro-vice chancellor/rector) the more likely it is that administration and faculty will adopt it as a priority (Council on Competitiveness, 2008).

On this basis the Third Mission has the potential to stimulate institutional growth and development well beyond the direct benefits of knowledge exchange. Rather than being perceived as a separate mission distinct from the traditionally conceived Humboldtian ideology of higher education, the Third Mission is more usefully conceptualised as a tool to reinforce teaching and research if properly integrated through entrepreneurial architectures. In addition, this section illustrates that it is difficult (and possibly unproductive) to predict the impacts of the third stream on teaching and research missions without reference to specific institutional contexts. So much depends on how universities choose to adapt these activities and the relative development of their entrepreneurial architectures. The task of leveraging and consolidating the Third Mission as an institutional strategy therefore falls crucially to university management as

the entrepreneurial architects. These architects are key agents of institutional evolution but also the socio-economic role of universities.

Making the connection: reconceptualising the three missions

“An institution remains functional only as long as it vitally embodies its inherent idea ... The functions the university fulfils for society must preserve an inner connection with the goals, motives, and actions of its members.” (Habermas, 1987)

The ideology of the Third Mission, and its various guises, has been widely adopted by both governments and the universities that are their instruments. As lynchpins, or the engines of the knowledge-based economy, higher education institutions are increasingly under pressure to contribute to the economy and wider society. However, this has not come without costs. The emphasis on economic engagement presents a challenge to the core missions of the university, and arguably the *idea* of what a university is and the functions it should fulfil. While the Third Mission has evolved over a relatively long period of time, its inclusion in public policy has been comparatively recent. As such, universities are in the process of adapting to new imperatives and adjusting their goals and motives to integrate the Third Mission with teaching and research.

This adjustment has been, and continues to be, characterised by a degree of ambiguity as institutional identities and functions are reimagined and realigned. What is clear in an analysis of patterns of policy adoption is that the Third Mission has typically been conceived as a set of functions that are held to be distinct from the teaching and research roles of higher education. Perceived in this way the Third Mission lacks the “inner connection” Habermas sees as critical to the preservation of the social functionality of the university. This paper contests this atomistic view of the third stream. It argues that the precepts of the Third Mission provide an opportunity for institutional development beyond the third stream: in essence, linking teaching, research and third stream activities reinforces the respective dynamics of each through their recursive and reciprocal development.

Adoption of the Third Mission does not, however, necessarily guarantee holistic institutional development – rather it represents the potential for recursive evolution. Positive feedback beyond the third stream is only effective where the Third Mission is integrated into broader institutional strategy – where inner connections link functions and goals through consolidated entrepreneurial architectures. Where the third stream remains isolated it is more likely that tensions will develop between missions and there will be less scope for mutual reinforcement. This brings to the fore the critical role of university leadership and management in the pursuit of third stream activities. These actors are the key architects of institutional evolution and, while they are

not the only determinants of third stream success, are nevertheless critical agents of its integration and design.

While institutional agency is key, it is important to acknowledge that universities do not exist in a vacuum. As instruments of the state they are inevitably the subjects of government policy. In most cases the Third Mission has been adopted as a discrete public policy goal. It is therefore important to consider the impact that policy design and implementation have on the incentive structures faced by target universities. If third stream embeddedness is a determinant of potential for broader institutional evolution, then the degree to which public policies encourage an integrated as opposed to a grafted-on approach may be decisive. Higher education funding structures can have a significant effect on institutional strategies (Benner and Sandström, 2000). To date, while the effect of funding on academic norms has been explored, its impact on the structure and development of entrepreneurial architectures remains underdeveloped. Differences in policy design may account *ceteris paribus* for cross-national variance in third stream adoption. One of the issues related to the design of third stream funding mechanisms is that they are largely performance-based. However, serious questions have been raised about the adequacy of the third stream indicators that underpin funding formulae (Molas-Gallart and Castro-Martinez, 2007; Sörlin, 2007). Of particular concern is the tendency to privilege the most visible dimensions of the third stream – namely patenting, licensing and contract research. This bias may contribute to incentivising university strategies that concentrate on forging external links rather than building the internal connections necessary for entrepreneurial embeddedness.

It has been the intention of this paper to reflect on the second academic revolution: the dynamic between the Third Mission and the former core missions of teaching and research. Whether a university or multiversity, the role of contemporary higher education institutions has been and continues to be in transition, and in some respects this poses a dilemma whereby the “inner connection with the goals, motives, and actions of its members” (Habermas, 1987) are lost. The core proposition of this paper is that while in some instances this “loss” is an outcome of the Third Mission, the Third Mission also has the capacity to be that inner connection. Rather than simply a third mission, the “Third Mission” presents an opportunity for institutional development beyond third stream activities, allowing universities to (re)define themselves as well as consolidate the (core) missions of teaching and research. Indeed, engineering a recursive and reciprocal dynamic between the three missions poses a greater challenge to the contemporary university than privileging or excelling in any one mission.

The authors:

Dr. Tim Vorley
University Lecturer
Department of Geography
University of Cambridge
Downing Place
Cambridge CB2 3EN
United Kingdom
E-mail: tim.vorley@geog.cam.ac.uk

Jen Nelles
PhD Candidate
Department of Political Science
University of Toronto
Research Associate, ISRN
1 Devonshire Place
Toronto ON M5S 3K7
Canada
E-mail: jen.nelles@utoronto.ca

References

- Baldini, N., R. Grimaldi and M. Sobrero (2005), "Motivations and Incentives for Patenting within Universities: A Survey of Italian Inventors", paper presented at the 65th Annual Meeting of the Academy of Management, Honolulu, Hawaii, August.
- Behrens, T.R. and D.O. Gray (2001), "Unintended Consequences of Cooperative Research: Impact of Industry Sponsorship on Climate for Academic Freedom and Other Graduate Student Outcomes", *Research Policy*, Vol. 30, pp. 179-199.
- Benner, M. and U. Sandström (2000), "Institutionalizing the Triple Helix: Research Funding and Norms in the Academic System", *Research Policy*, Vol. 29, pp. 291-301.
- Burns, P. (2005), *Corporate Entrepreneurship: Building an Entrepreneurial Organisation*, Palgrave Macmillan, Basingstoke, Hampshire.
- Clark, B. (1998a), *Creating Entrepreneurial Universities Organizational Pathways of Transformation*, IAU Press, New York.
- Clark, B. (1998b), "The Entrepreneurial University: Demand and Response", *Tertiary Education and Management*, Vol. 4, No. 1, pp. 5-16.
- Council on Competitiveness (2008), *Cooperate: A Practitioners Guide for Effective Alignment of Regional Development and Higher Education*, Council on Competitiveness, www.compete.org/images/uploads/File/PDF%20Files/Cooperate%20Final.pdf, accessed 23 April 2008.
- Deem, R. (2007), "Producing and Re/producing the European University in the 21st Century: Research Perspectives on the Shifting Purposes of Higher Education", paper presented at the Worldwide Universities Network "Realising the Global University Conference", London, 15 November.

- Etzkowitz, H., P. Asplund and N. Nordman (2001), "Beyond Humboldt: Emergence of Academic Entrepreneurship in the US and Sweden", CERUM Working Paper No. 27, Centre for Regional Science at Umeå University, www.umu.se/cerum, accessed 23 April 2008.
- Etzkowitz, H. et al. (2000), "The Future of the University and the University of the Future: Evolution from Ivory Tower to Entrepreneurial Paradigm", *Research Policy*, Vol. 29, pp. 313-330.
- Foucault, M. (1971), "Revolutionary Action: Until Now – A Discussion with Michel Foucault", *Actuel*, Vol. 14, pp. 42-47.
- Fuller, S. (2007), "University Leadership in the Twenty-First Century: The Case for Academic Ceasarism", in D. Epstein et al. (eds.), *Geographies of Knowledge, Geometries of Power: Higher Education in the 21st Century*, Routledge Falmer, London, pp. 65-71.
- Garnsey, E. (2007), "The Entrepreneurial University: The Idea and Its Critics", in S. Yusuf and K. Nabeshima (eds.), *How Universities Promote Economic Growth*, The World Bank, Washington, pp. 227-238.
- Geuna, A. (1999), *The Economic of Knowledge Production: Funding and the Structure of University Research*, Edward Elgar, Cheltenham.
- Geuna, A. (2001), "The Changing Rationale for European Research University Funding: Are There Negative Unintended Consequences?", *Journal of Economic Issues*, Vol. 35, No. 3, pp. 607-629.
- Geuna, A. and L. Nesta (2003), "University Patenting and Its Effects in Academic Research", SPRU EWPS 99, University of Sussex, Brighton.
- Goddard, J. and J. Puukka (2008), "The Engagement of Higher Education Institutions in Regional Development: An Overview of Opportunities and Challenges", *Higher Education Management and Policy*, Vol. 20, No. 2, OECD, Paris, pp. 11-41.
- Göktepe, D. (2002), *University Industry Technology Transfer Mechanisms: Patenting, Licensing and Start-up Company Formation*, WP Lund University.
- Habermas, J. (1987), "The Idea of the University – Learning Processes", *New German Critique*, Vol. 41, pp. 3-22.
- Hatakenaka, S. (2005), *Development of Third Stream Activity: Lessons from International Experience*, Higher Education Policy Institute, www.hepi.ac.uk/pubdetail.asp?ID=203&DOC=reports, accessed 23 April 2008.
- Jacobsson, S. (2002), "Universities and Industrial Transformation", SPRU Working Paper No. 81, University of Sussex, Brighton.
- Jencks, C. and D. Riesman (1968), *The Academic Revolution*, Doubleday, New York.
- Jensen, R. and M. Thursby (2004), "Patent Licensing and the Research University", NBER Working Paper No. 10758, National Bureau of Economics Research, www.nber.org/papers/w10758, accessed 23 April 2008.
- Jewell, H.M. (1998), *Education in Early Modern England*, Macmillan, Basingstoke.
- Johnston, R. et al. (1993), "The Effects of Resource Concentration on Research Performance", National Board of Employment, Education and Training, Commissioned Report No. 25, Australian Government Publishing Service, Canberra.
- Kerr, C. (1963), *The Uses of the University*, Harvard University Press, Cambridge.

- King, D. and V. Nash (2001), "Continuity of Ideas and the Politics of Higher Education Expansion in Britain from Robbins to Dearing", *Twentieth Century British History*, Vol. 12, No. 2, pp. 185-207.
- Knell, J. and K. Oakley (2007), *London's Creative Economy: An Accidental Success?*, Work Foundation, London.
- Markman, G.D. et al. (2004), "Entrepreneurship from the Ivory Tower: Do Incentive Systems Matter?", *Journal of Technology Transfer*, Vol. 29, pp. 353-364.
- Markman, G.D. et al. (2005), "Entrepreneurial Emergence and University-based Technology Transfer", *Journal of Business Venturing*, Vol. 20, No. 2, pp. 241-263.
- Martin, B.R. and H. Etzkowitz (2000), "The Origin and Evolution of the University Species", *VEST*, Vol. 11, Nos. 3-4, pp. 9-34.
- Molas-Gallart, J. and E. Castro-Martinez (2007), "Ambiguity and Conflict in the Development of 'Third Mission' indicators", *Research Evaluation*, Vol. 16, No. 4, pp. 321-330.
- Mote, C.D. (2000), "Perspective on Maryland Economic Development: The 150,000-foot View", Maryland Technology Showcase: Keynote Address, University of Maryland, College Park, Maryland, 6 December.
- Mould, O., S. Roodhouse and T. Vorley (2008), "Realising Capabilities: Academic Innovation and Creativity", *Creative Industries Journal*, Vol. 1, No. 2.
- Nedeva, M. (2007), "New Tricks and Old Dogs? The 'Third Mission' and the Re-production of the University", in D. Epstein et al. (eds.), *Geographies of Knowledge, Geometries of Power: Higher Education in the 21st Century*, Routledge Falmer, London, pp. 65-71.
- Nelles, J. and T. Vorley (2008a), "Entrepreneurial Architecture in UK Higher Education Institutions: Consolidating the Third Mission", paper presented at the DRUID 25th Celebration Conference 2008 on "Entrepreneurship and Innovation – Organisations, Institutions, Systems and Regions", Copenhagen Business School, Copenhagen, 17-20 June, www2.druid.dk/conferences/viewpaper.php?id=3275&cf=29.
- Nelles, J. and T. Vorley (2008b), "Avenging the Third Mission: The Entrepreneurial Architecture of a 'New' University", Working Paper 0208, Department of Geography, University of Cambridge.
- Newman, J.H. (1852), *The Idea of a University*, Longmans Green and Co., London.
- Nieminen, M and E. Kaukonen (2004), "Universities and Science-Industry Relationships: Making a Virtue Out of Necessity?", in G. Schienstock (eds.), *Embracing the Knowledge Economy: The Dynamic Transformation of the Finnish Innovation System*, Edward Elgar, Cheltenham, United Kingdom, pp. 196-219.
- Nybom, T. (2003), "The Humboldt Legacy: Reflections on the Past, Present, and Future of the European University", *Higher Education Policy*, Vol. 16, pp. 141-159.
- OECD (2003), *Turning Science into Business: Patenting and Licensing at Public Research Organisation*, OECD, Paris.
- OECD (2007), *Higher Education and Regions: Globally Competitive, Locally Engaged*, OECD, Paris.
- Poyago-Theotoky, J., J. Beath and D.S. Siegel (2002), "Universities and Fundamental Research: Reflections on the Growth of University-Industry Partnerships", *Oxford Review of Economic Policy*, Vol. 18, No. 1, pp. 10-21.

- Ranga, L.M., K. Debackere and N. von Tunzelmann (2003), "Entrepreneurial Universities and the Dynamics of Academic Knowledge Production: A Case Study of Basic vs. Applied Research in Belgium", *Scientometrics*, Vol. 58, No. 2, pp. 301-320.
- Salmi, J. and A. Saroyan (2007), "League Tables as Policy Instruments: Uses and Misuses", *Higher Education Management and Policy*, Vol. 19, No. 2, OECD, Paris, pp. 1-38.
- Sörlin, S. (2007), "Funding Diversity: Performance-based Funding Regimes as Drivers of Differentiation in Higher Education Systems", *Higher Education Policy*, Vol. 20, pp. 413-440.
- Stephan, P.E. (2001), "Educational Implications of University-Industry Technology Transfer", *Journal of Technology Transfer*, Vol. 26, pp. 199-205.
- Sutherland, S. (1994), "The Idea of a University", in *Universities in the Twenty-First Century: A Lecture Series*, National Commission on Higher Education, London.
- Thorn, K. and M. Soo (2006), "Latin American Universities and the Third Mission: Trends, Challenges and Policy Options", The World Bank, www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2006/08/30/000016406_20060830142439/Rendered/PDF/wps4002.pdf, accessed 23 April 2008.
- Tuunainen, J. (2005), "Hybrid Practices? Contributions to the Debate on the Mutation of Science and University", *Higher Education*, Vol. 50, No. 2, pp. 275-298.
- Vorley, T. (2008), "Empowering Academia? The Third Mission, Universities and the State", Working Paper 0308, Department of Geography, University of Cambridge.
- Williams, B. (1992), "The Rise and Fall of Binary Systems in Two Countries and the Consequence for Universities", *Studies in Higher Education*, Vol. 17, No. 3, pp. 281-293.
- Yusuf, S. (2007), "University-Industry Links: Policy Dimensions", in S. Yusuf and K. Nabeshima (eds.), *How Universities Promote Economic Growth*, The World Bank, Washington, DC, pp. 1-25.
- Ziman, J. (1991), "Academic Science as a System of Markets", *Higher Education Quarterly*, Vol. 4, No. 5, pp. 41-61.

Information for authors

Contributions to the *Higher Education Management and Policy Journal* should be submitted in either English or French and all articles are received on the understanding that they have not appeared in print elsewhere.

Selection criteria

The Journal is primarily devoted to the needs of those involved with the administration and study of institutional management in higher education. Articles should be concerned, therefore, with issues bearing on the practical working and policy direction of higher education. Contributions should, however, go beyond mere description of what is, or prescription of what ought to be, although both descriptive and prescriptive accounts are acceptable if they offer generalisations of use in contexts beyond those being described. Whilst articles devoted to the development of theory for its own sake will normally find a place in other and more academically based journals, theoretical treatments of direct use to practitioners will be considered.

Other criteria include clarity of expression and thought. *Titles of articles should be as brief as possible.*

Presentation

Electronic submission is preferred. **Three copies** of each article should be sent if the article is submitted on paper only.

Length: should not exceed 15 pages (single spaced) including figures and references (about 5 000 words).

The first page: before the text itself should appear centred on the page in this order: the title of the article and the name(s), affiliation(s) and country/countries of the author(s).

Abstract: the main text should be preceded by an abstract of 100 to 200 words summarising the article.

Quotations: quotations over five lines long should be single-spaced and each line should be indented seven spaces.

Footnotes: authors should avoid using footnotes and incorporate any explanatory material in the text itself. If notes cannot be avoided, they should be endnotes, at the end of the article.

Tables and illustrations: tabular material should bear a centred heading "Table". Presentations of non-tabular material should bear a centred heading "Figure". The source should always be cited.

Addresses of author(s), including e-mail, should be typed at the end of the article.

References in the text: Vidal and Mora (2003) or Bleiklie et al. (2000) in the case of three or more authors. However, the names of all authors should appear in the bibliography at the end of the article.

Bibliography at the end of the article: references should be listed in alphabetical order under the heading "References". Examples of the reference style used in the Journal are:

- For periodicals: Kogan, M. (2004), "Teaching and Research: Some Framework Issues", *Higher Education Management and Policy*, Vol. 16, No. 2, pp. 9-18.
- For books: Connell, H. (ed.) (2004), *University Research Management – Meeting the Institutional Challenge*, OECD, Paris.

The covering letter

This should give full addresses and telephone numbers and, in the case of multi-authored papers, indicate the author to whom all correspondence should be sent.

Complimentary copies

Each author will receive two complimentary copies of the Journal issue in which his/her article appears, in the original language.

Articles submitted for publication should be sent to:

The Editor
Higher Education Management and Policy
OECD/IMHE
2, rue André-Pascal
75775 Paris Cedex 16
France
imhe@oecd.org

OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(89 2008 03 1 P) ISSN 1682-3451 – No. 56287 2008

Higher Education Management and Policy

JOURNAL OF THE PROGRAMME ON INSTITUTIONAL MANAGEMENT IN HIGHER EDUCATION

Quality Assurance in the European Higher Education Area: The Emergence of a German Market for Quality Assurance Agencies Kathia E. Serrano-Velarde	9
Scholarly Communication Costs in Australian Higher Education John W. Houghton with Colin Steele and Peter Sheehan	27
Introducing Entrepreneurship Teaching at Select German Universities: The Challenge of Change Gudrun Curri	45
The Institutional Organisation of Knowledge Transfer and its Implications Sjors van der Heide, Peter C. van der Sijde and Cees Terlouw	65
Quality Assessment of Undergraduate Education in China: A Policy Analysis Shuiyun Liu and Maria João Rosa	79
The Negotiation Process toward the New Salary System in the Finnish University Sector Jouni Kekäle	97
(Re)Conceptualising the Academy: Institutional Development of and beyond the Third Mission Tim Vorley and Jen Nelles	119

Subscribers to this printed periodical are entitled to free online access. If you do not yet have online access via your institution's network, contact your librarian or, if you subscribe personally, send an e-mail to SourceOECD@oecd.org.

Volume 20, No. 3
2008

ISSN 1682-3451
2008 SUBSCRIPTION
(3 ISSUES)

OECD *publishing*

www.oecd.org/publishing

imhe

89 2008 03 1 P 9

